

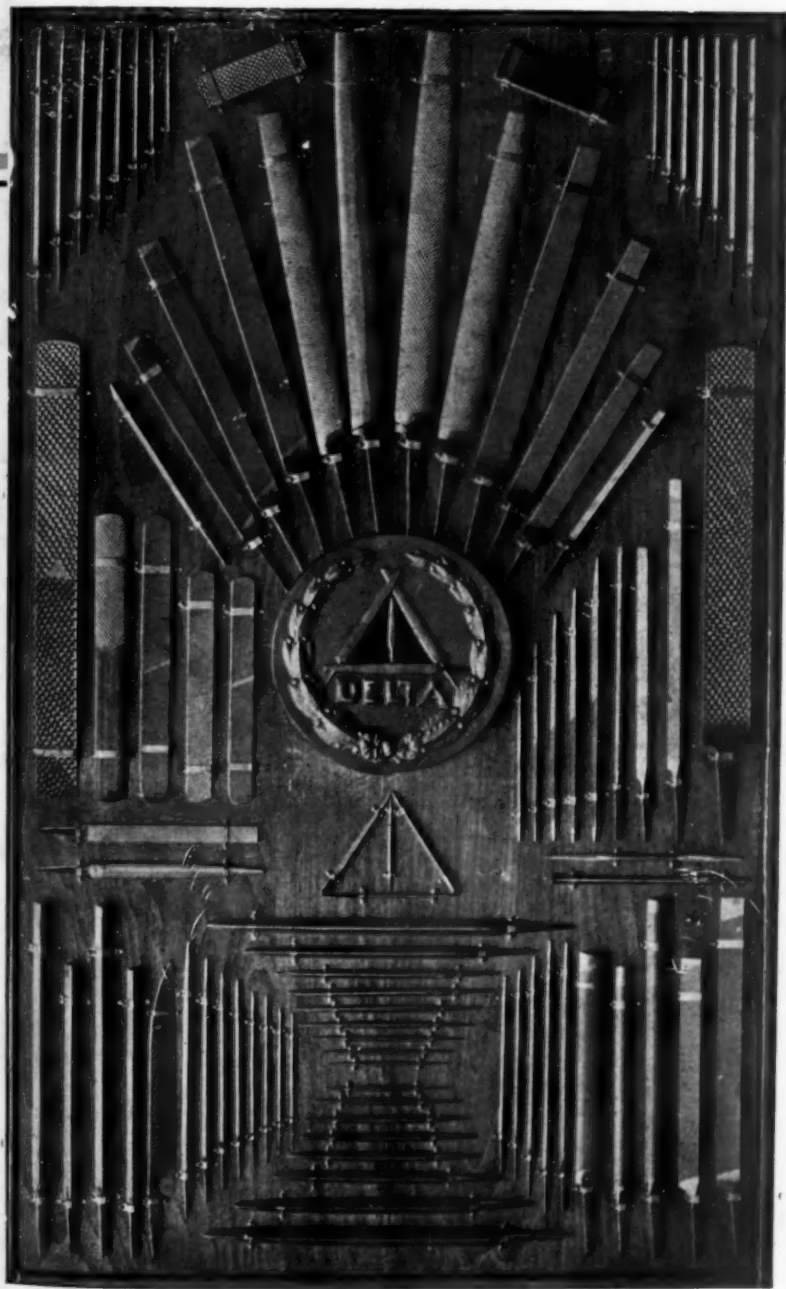
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AMERICAN ARTISAN and Hardware Record

Vol. 79. No. 11.

620 SOUTH MICHIGAN AVENUE, CHICAGO, MARCH 13, 1920.

\$2.00 Per Year.



Your customers will buy
"Files of Quality"

THE mechanic or "handy man about the house" who wants a good file will see at once the quality of **DELTA "Files of Quality."** You merely have to suggest their quality, cutting efficiency, durability, deep-cut teeth and service, because with every sale of **DELTA FILES** you can give your customers a *written guarantee* of absolute satisfaction.

We stand in back of every **DELTA FILE** we make and unless *every* file gives the satisfaction and service that your customers know they should give *we alone* are the losers on the sale.

DELTA FILES can be had in any style or shape for all kinds of work. This enables you to serve your customers with exactly the kind of files they want.

You can make good profits by selling **DELTA "Files of Quality."** Let us tell you all about them.

You should have a **DELTA FILE DISPLAY** as illustrated at the left. Ask us about having one in *your* store.

*Our latest illustrated catalog
is ready for you. Write for it
TODAY.*



DELTA FILE COMPANY

PHILADELPHIA, PENNSYLVANIA



Published Weekly. Entered as Second-Class Matter June 25 1885 at the Post Office at Chicago Illinois under Act of March 3rd 1879

ALPHABETICAL INDEX AND CLASSIFIED LIST OF ADVERTISERS. Pages 46 and 47

MAHONING HEATERS

Sell Themselves

So many superior qualities are involved in **MAHONING** construction that to tell of one would slight others equally as important.

No need to *talk* Mahoning qualities. *Show* your customer,—he will see it at a glance.

We want good live dealers everywhere, and offer a tempting proposition.

A style and size for every purpose.



MAHONING TYPE "C"

Illustration shows quite clearly the combustion as it takes place in the Mahoning system. Note how the admission of air through the slots in the firepot causes combustion to take place all around the outside of the fire. The hottest part of the flame is in direct contact with the outside surface of the heater where the radiation of heat takes place. Only one of the features that have made the Mahoning famous from coast to coast.

The MAHONING FOUNDRY CO.

YOUNGSTOWN, OHIO

A Mammoth Plant With a Mammoth Production

FRONT RANK

TRADE NAME REGISTERED

Real "FITTING FITTINGS"



Write for Catalog

MANUFACTURED BY

HAYNES-LANGENBERG MFG. CO.

4058 FOREST PARK BOULEVARD
ST. LOUIS, U. S. A.

ESTABLISHED 1880
Representative of
The Hardware, Stove,
Sheet Metal, and Warm
Air Heating and Venti-
lating Interests
PUBLISHED EVERY SATURDAY

AMERICAN ARTISAN and Hardware Record

Address all communications and
remittances to

DANIEL STERN
Publisher and Proprietor
620 South Michigan Avenue
Chicago, Illinois

TERMS OF SUBSCRIPTION IN THE UNITED STATES AND ITS POSSESSIONS (Invariably in Advance) ONE YEAR POSTAGE PAID \$2.00
FOREIGN COUNTRIES ONE YEAR POSTAGE PAID \$4.00 CANADA ONE YEAR POSTAGE PAID \$3.00

Entered as Second-Class Matter June 25 1885 at the Post Office at Chicago, Illinois under Act of March 3rd 1879

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CHICAGO, MARCH 13, 1920.

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THERE IS A SAYING in the Babylonian Talmud which has substance enough in it for a book of essays.

It is this: "The sun will go down all by himself, without your assistance." That is one thing which we can not hasten or retard by any effort we may make. If we take the trouble to compile a list of matters about which we worry, we will discover that most of them are beyond our control or influence. In other words, we are wasting thought, time, and nerve-stuff which could be used to fine advantage in improving our minds, bettering our service, and enhancing our happiness. Let us quit the foolish business of trying to help the sun go down or come up.

BUSINESS IS, FIRST and foremost, a matter of personality. If it were otherwise, automatic machinery would take the place of ninety-five per cent of the persons who now carry on business. Character, friendliness, truth, service, thrift, and scores of positive virtues can be utilized in business only through the individual. Many years ago Bradstreet's Journal established the statistical fact that business success or failure is largely personal—in other words, that the individual himself is largely responsible for failure to succeed. In 1918 the proportion of failure credited to causes which are classed as originating within the individual himself rose to its highest point, 86 per cent, while outside influences were credited with causing 14 per cent. The 1919 returns are almost identical with this, 85.9 per cent, in fact, being credited to the individual and 14.1 per cent to outside influences. In 1917 the percentage due to the individual was 85. The past three years, indeed, seem to have been in a class by themselves as regards this feature, no other year in the 27 showing a higher proportion than 82.3 per cent. Clearly to understand the above statement, it will be advisable to examine Bradstreet's groupings of the causes of failure proceeding from or inherent in the individual as compared with those outside his control:

A.—Due to faults of those failing: •Incompetence (irrespective of other causes); inexperience (without other incompetence); lack of capital; unwise credits; speculation (outside regular business); neglect of business (due to doubtful habits); personal extravagance; fraudulent disposition of property.

B. Not due to faults of those failing: Specific conditions (disaster, war, floods, etc.); failures of others (of apparently solvent debtors); competition.

The last mentioned factor, namely, competition, is a most intensely personal force. It causes failure only because it is personal. That is to say, the merchant who suffers failure through competition does not put enough personality into his business to overcome the competition by equal service, efficiency, and consistently sustained publicity.

YOU CAN BORE a hole through a sheet of glass without cracking the glass. A rat-tail file and a little turpentine will turn the trick. But you can not drive a nail through the glass without shattering it. Applied to merchandising, this difference between boring and driving holds good. When you are dealing with human nature across the counter of your store, you must bear in mind always that the slow and continuous effect of courtesy will enable you to penetrate the more or less fragile good-will of the people. On the other hand, a brusque or impatient manner, a dictatorial tone, a disposition which expresses itself in contradicting others and provoking argument, all combine to shatter the good-will of the prospective customer just as driving a nail through a sheet of glass smashes it into fragments.

A GREAT MANY people seem to think that the high cost of living is an unmitigated evil. In reality, it is comparatively insignificant in relation to the high cost of pessimism. The reason is that we have to pay for pessimism not only in the dollars and cents loss resulting from lowered efficiency, but also in health of body and mind. You can not do much business with a man who is suffering from a raging tooth ache. Your most carefully planned logic and your most winning sales eloquence can not battle successfully against the distraction of his pain. His attention is centered upon his distress, and can be concentrated upon your commodities only by relieving his suffering. Similarly, though not in so intensified a degree, the attention of the pessimist is weakened by gloomy thoughts as well as by the skepticism which makes him doubt your sincerity and discount the truth of your statements. If you also are a pessimist trying to sell goods to the customer, the consequences are still more depressing. There is distrust on both sides. The friendliness of service is made a mockery. In addition, other values are destroyed. Business is built upon confidence. The pessimist is essentially distrustful; and this reacts upon every commercial transaction in which he takes part.

Scientists have proved that worry—which after all is a synonym of pessimism—lessens vitality. Thus diligence, alertness, and enthusiasm are diminished. That means less of these desirable virtues in the conduct of business, and hence a lowering of efficiency. It is a vicious circle in which inspiration is lacking as well as the stimulus of ambition. Pessimism is as deadly to prosperity as carbolic acid is to a rose.

THE MERCHANT WHO makes up his mind to incorporate advertising in his business as a part of its necessary resources must not allow him-

**Sameness
of Ideas.**

self to be burdened with theories. So much has been written about advertising and the analysis of its factors has been carried into such a multiplicity of details that one is sometimes at a loss how to find the essence. After all, the thing to keep in the foreground is that human nature is pretty much the same everywhere. A famous authority, Franz Boaz, in his book, *The Mind of Primitive Man*, says that "observation has shown that not only emotions, intellect and will-power of man are alike everywhere, but that much more detailed similarities in thought and action occur among the most diverse peoples. These similarities are apparently so detailed and far-reaching, that Bastian was led to speak of the appalling monotony of the fundamental ideas of mankind all over the globe."

The hardware dealer does not need to strain after extraordinary effects, therefore, in the wording of his advertisements. He does not need outlandish words or grotesque illustrations to tell his story to prospective customers. The closer he comes to using familiar phrases common to rich and poor alike, the nearer he approaches natural expression in type, the more effectively will he gain the attention of those who read his message. Tell the people about your hardware in plain language—not about yourself. The man who wants to buy a saw isn't interested particularly in what you had for breakfast or the size of your hat and shoes. He is thinking about the kind of a saw which will satisfy his requirements. Hence, when you advertise saws, tell the folks what the saws will do for them in the way of good work. Don't waste their time and yours in saying how proud you are of your store and stuff of that sort. Instead, tell them that the store is arranged, stocked, and managed to serve them, to give them the kind of hardware they want, and to see that they get a square deal at all times, whether they buy a dollar's worth of goods or a thousand dollars' worth of goods in a single order.

LATENT ABILITY IS like latent capital. Both are worthless. It is only when a man's powers are applied to live forces that they express

**Latent
Ability.**

their value. In the life-stream of business the dross of indolence is separated from the gold of ability. Worth shows itself in naked form. The merchant who permits his abilities to lie dormant for some reason or other can not be termed a business man in the true sense of the word. He is allowing capital to go to waste when there is an acute need for it on the market. That

ability of all kind is scarce now is a self-evident truth. In recent investigations one of the foremost economists of this country came to the conclusion that the most predominating factor in financial success, mind you, is not necessarily capital, but personal ability. The reason for this can be easily seen. No matter whether a man has in charge a million dollars or a thousand dollars, if he has not the ability successfully to direct that capital his failure will be complete in either case. The fact that a man is in business is proof of his ability—especially at the present time. However, if the retailer remains in a single rut and does not seem to progress, it indicates latent ability, dormant powers. It is known that when capital is put into motion intelligently it is made to grow. Likewise with ability. It does not wear out. Exercise augments it. The sleeping forces within a man when set to work expand and grow.

TOO OFTEN THOSE not intimately connected with the business of selling commodities harbor the mis-

**The Value
to Labor
of Selling.**

apprehension that the distribution of goods concerns the retailer alone. The slightest reflection on the part of such people will prove to their satisfaction that they are wrong. No greater mistake could be made. The selling of commodities is the circulatory system of a nation. The factories are its heart and the distributors its life's blood. Sometimes labor takes into consideration the vital position held by the manufacturers, but it is seldom that it takes account of the link that connects them with the distributors. With incompetent distributors in the field the demand falls. Consequently, production is cut and the workingman is thrown into idleness. Conversely, where the distributors augment sales, factories are given an impetus, production is increased and wages and profits rise.

The position of the distributors is recognized by thinking labor leaders. Of course, there are some who are irresponsible. But generally the conservative trade-union official takes cognizance of the field of distribution. A widely-known labor leader, one whose mental capacities befit him to lead American labor has the following to say with regard to the distribution of goods:

"Selling commodities is one of the most important works performed by man. It must be so. The great periodicals that we read impress upon us the fact that getting commodities sold is a matter second to none in importance. From one-third to three-fourths of the pages of the periodical publications are given up to the business of selling through advertising. In our cities the story is driven home to us as we go about the streets. The principal and most attractive thoroughfares, usually are given up to business—to the business of selling commodities."

From the foregoing it can be further seen that this labor official takes into account the position advertising holds with regard to the selling of commodities. He does not, however, concern himself with the question of increased sales with a view to greater profits accruing to the seller. Rather, this labor leader has in mind the necessary step for the provision of work

for the laboring man. He knows that it is all-important to have goods sold before the average wage can be increased as a result thereof; and he realizes that advertising is a necessary adjunct to the selling of commodities. In performing his function, the distributor furthers the interest of both capital and labor.

RANDOM NOTES AND SKETCHES.

By Sidney Arnold.

There are many ways to lessen expenses, says my friend David M. Haines, Secretary Chicago Sheet Metal Contractors' Association. He cites this example:

A tinsmith had a toothache. A friend recommended a certain dentist, so the tinsmith went to his office; but on the door he read: "First visit, \$5.00. Subsequent visits, \$2.00." This was pretty tough for the tinsmith. Then, after a moment's very hard thought he opened the door and walked in with a chirrupy—

"Good-morning, doctor! I'm here again."

* * *

It is not easy nowadays to acquire a reputation for goodness on the negative side, especially since July the Thirst, says my friend Jim Gormley of the Bulard and Gormley Company, Chicago, Illinois. In this connection, he sends me the subjoined story:

"Yes," said Mrs. Meek at the Woman's Club, "John makes a model husband. If I never cook anything but what he likes, if I never want him to go anywhere he doesn't want to, and never ask him for money, why, he is the easiest man to get along with that I ever saw. Of course, he is a little fussy about his mending, and I often have to do his silk shirts over a few times, and he has a wee prejudice against my entertaining any of my own friends or relatives, but we all have our little failings, and, taking it all in all—and you can say what you please—I call my John an ideal husband."

* * *

Thrift carried to its highest point is illustrated in this story related to me by my friend Ralph W. Blanchard, of the Chicago office of the Hart and Cooley Company, Incorporated, New Britain, Connecticut:

Mr. Macpherson went to New York to business, but lived in Brooklyn. Often he was not able to get home in time for dinner at night. He told his wife that he would phone her every day as to whether he could leave the office or not.

Mrs. Macpherson was of a very thrifty disposition and the following was her solution of the problem: "Sam, if you find that you can't be home for dinner, phone me exactly at six o'clock. If the telephone rings at that hour I'll know it is you and that you are not coming for dinner. I won't answer it and you'll get your nickel back."

* * *

My friend James R. Graves, sales representative in the Chicago territory for the Detroit Vapor Stove Company, Detroit, Michigan, tells the following contest of veracity:

American—"I guess I once had the finest canary in America. It was a lovely singer, and its favorite

tune was "Home, Sweet Home." One day it sang it so pathetically that the tears rolled down its bill, flooded the cage, and the poor bird fell in and was drowned."

Irishman—"Something like that happened to meself over in Ireland. I got a present of a thrush from a blacksmith, and I put it in a wicker cage. His favorite whistle was "The Village Blacksmith," and, by the piper, wan day it whistled it so real that the burning sparks flew out of his tail, set the cage afire, and burned hesself to death."

* * *

A ludicrous illustration of the saying that "pride goeth before a fall" is furnished by my friend Josiah Borden of the Borden Stove Company, Philadelphia, Pennsylvania, as follows:

The office telephone in a well-known surgeon's office rang. The doctor himself answered the phone. A childish voice inquired, "Who is this?" The doctor recognized the voice of his seven-year-old boy. Although an exceedingly busy man, he is ever ready for a bit of fun, if the opportunity permits, and anticipating such at this time, replied, "This is the smartest man in the city." The child mumbled for a moment and replied, "I beg your pardon, sir, it is the wrong number," and hung up.

* * *

A returned soldier related this laughable tale to my friend George F. Fiske of the American Stove Company, St. Louis, Missouri:

Pat, just returned from the trenches with his head swathed in bandages was the center of attraction. "How did you get wounded?" asked a proud admirer.

"Well," said Pat, "the dirty Boche wuz rasin' Ned wit' our trinchies whin our brave captain shouts 'Kape down, boys, and sthand Pat!' Oi obade."

* * *

Many devices and subterfuges are used to maintain an appearance of prosperity, declares my friend Joseph G. Deericks, General Manager of Sales, Pittsburgh Steel Company, Pittsburgh, Pennsylvania. He relates a case to the point:

Binkers—What's the idea of a little firm like yours with a massive safe like that?

Chinkers—It helps the morale of our creditors.

* * *

The angles from which life may be viewed are as countless as sands of the sea. For the red-blooded man, however, the best angle from which to branch into the day's activities is that of clean sportsmanship—playing the game fairly and squarely. The appended verses express this angle:

Playing the Game of Life.

Life is a game with a glorious prize,
If we only play it aright.
It is give and take and build and break,
And often it ends in a fight;
But he surely wins who honestly tries
(Regardless of wealth or fame);
He can never despair who plays it fair—
How are you playing the Game?

Do you wilt and whine if you fail to win
In the manner you think your due?
Do you sneer at a man in case he can,
And does, do better than you?
Do you take your rebuffs with a knowing grin?
Do you laugh though you pull up lame?
Does your faith hold true when the whole world's blue?
How are you playing the Game?

UP TO THE MINUTE NEWS SIFTINGS

MOVES PLANT TO BETTER LOCATION.

The Engman Matthews Range Company of South Bend, Indiana, is building a new plant at Goshen, Indiana. Labor conditions are such at South Bend that this company finds it to its interest to move to a place where the situation is more favorable, and it has, therefore, selected Goshen, Indiana, as its new location. The new place is well situated with respect to shipping facilities, and the buildings being put up are much larger than those which the company formerly occupied. Thus it will be in a position to handle a greater volume of business and give a higher degree of service. The main structure will be 80x1,000 feet with four wings, each of which will be 50x100 feet. The Engman Matthews Range Company expects its new plant to be completed in time for it to move in November, 1920.

DISTRIBUTES ENVELOPE MOISTENER AS ADVERTISING REMINDER.

A small though useful addition to the regular advertising of the Cleveland Cooperative Stove Company, Cleveland, Ohio, is being distributed among its friends and patrons in the form of an aluminum letter sealer and envelope moistener. The device is cylindrical in shape, measuring $2\frac{1}{2}$ inches in length by one inch in diameter. It has a detachable cap which is perforated with pin-point holes through which water is fed in right amount for moistening purposes and requires no sponge to regulate the flow. The bottom end of the device is used as a letter sealer by the simple expedient of rubbing it across the flap of the envelope.

STOCKS A LARGE LINE OF REPAIRS.

Because of the extent and variety of its stock the Omaha Stove Repair Works, Omaha, Nebraska, can supply stove, warm air heater and heating plant repairs promptly. In quality the repair parts supplied by this company are of a high grade. The material is durable. The formation of the parts is accurate. Considering the exhaustive line of repairs stocked by the Omaha Stove Repair Works, this company declares that it can accurately fill orders for repairs on a large variety of stoves, warm air heaters and heating plants. When a particular part is specified the order is filled with exactness. Unusual repairs can be furnished by this company. As soon as an order is received for a part, it is promptly filled. Due to the systematic arrangement of its stock the Omaha Stove Repair Works makes quick shipments. In ordering repairs, speed in obtaining the parts necessary—perhaps for a job which must be finished

promptly—is demanded by all dealers. This company declares that its large number of satisfied customers attests to the promptness of its service. For information relative to stove, warm air heater and heating plant repairs address the Omaha Stove Repair Works, Omaha, Nebraska.

WHO MAKES KEROSENE BURNER TO BE USED IN AN OPEN FIRE PLACE.

TO AMERICAN ARTISAN AND HARDWARE RECORD:

Please advise who makes a kerosene burner to be used in an open fire place.

Yours truly,

JOSEPH PFEFFER.

Johnstown, Pennsylvania, February 28, 1920.

GIVES ATTENTION TO ALL DETAILS.

In all details, no matter how insignificant, the Vedder Pattern Works, Troy, New York, embodies skillful workmanship. From the selection of the metal or wood to the packing of the completed pattern, this company exercises strict care. It employs the latest types of machinery. All specifications are followed in accordance with the desires of the customer. Shipments are made promptly. No matter how difficult might be the details of the stove or warm air heater pattern needed, the Vedder Pattern Works declares that it can meet the exacting requirements satisfactorily. Should the pattern be of the ordinary type, the same care which characterizes the more difficult work is embodied in it. For many years this company has been making stove and warm air heater patterns. Today it has a long list of satisfied customers who are ready to recommend its service. To get specific information pertaining to its various patterns write to the Vedder Pattern Works, Troy, New York.

HAS NEW CATALOGUE IN PRESS.

The Howard Stove Company, of Ralston, near Omaha, Nebraska, has in press a new catalogue showing the additions which have been made to its line of heating stoves, cook stoves, and steel and cast ranges. The Company expects to have this catalogue issued in a short time. With the additions referred to, the Howard Stove Company now has a complete and worthwhile line of stoves and ranges.

The officers of the Company are: President, Walter B. Wells; Vice-President, J. W. White; Treasurer, I. Kahn; Secretary, Robert Walsh; General Manager, F. C. Drake. The appointment of Mr. Drake as general manager is of recent occurrence, but he has been with the Company for the past five years. The Howard Stove Company has never been so busy in all its history as at the present time.

THE WEEK'S HARDWARE RECORD

Of Interest to Manufacturer, Jobber and Retailer

AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing western hardware and metal prices corrected weekly. You will find these on pages 40 to 45 inclusive.

The Bay State Saw and Tool Company, Winchester, Massachusetts, contemplates a factory addition.

The Saginaw Hardware Company, Saginaw, Michigan, has been organized by F. C. Achard and others, with a capital stock of \$200,000.

The William Schollhorn Company, New Haven, Connecticut, manufacturers of pliers and tools, will erect a four-story, 31x40-foot extension.

The Lyons Level and Tool Company, New Haven, Connecticut, has been incorporated with \$30,000 capital, by G. W. Lyons, Ernest Gregory, and J. W. Moffett.

The Peck Spring Company, Plainville, Connecticut, has been incorporated to make springs and small hardware with \$75,000 capital, by D. C. Peck, D. K. Peck and others.

The Fred E. Southard Company, Salem, Massachusetts, has been incorporated to make hardware, carpenters' and machinists' tools, with \$3,000 capital, by H. V. Hayden, Fred E. Southard, and F. D. Southard.

EXPANDS ITS FACILITIES THROUGH ACQUISITION OF MACHINERY AND PATENTS.

Through the acquisition by purchase of the machinery and patents of Reyburn and Hunter, manufacturers of lightning rods, Philadelphia, Pennsylvania, the Reyburn-Hunter-Foy Company of Cincinnati, Ohio, is in a most advantageous position to handle a large volume of business. The machinery has been moved to Cincinnati from Philadelphia and a building has been bought at 815 Broadway, Cincinnati, Ohio, which has been thoroughly refitted to meet the requirements of the Reyburn-Hunter-Foy Company. The lightning rod trade is undergoing a notable improvement as a result of more accurate knowledge and better and more instructive methods of salesmanship and publicity. Reyburn-Hunter-Foy Company is fully in harmony with every movement for the advance of the lightning rod business and its policy is to cooperate with the dealer in every way possible.

OCCUPIES NEW AND LARGER QUARTERS.

In order to meet its growing business demands the Bullard and Gormley Company, 54-62 East Lake Street, Chicago, Illinois, found it necessary to expand its headquarters and stock rooms. At the present time this company is located at 54-62 East Lake Street, Chicago, Illinois. Throughout this new situation is

modern in construction. The Bullard and Gormley Company occupies five stories and the basement of the building in which they are now doing business. Having an enormous floor space an immense stock can be kept on hand at all times. Therefore, prompt and efficient service can be maintained at all times. All friends and customers of this company are cordially invited to visit its new headquarters and acquaint themselves with the modern methods used to meet their needs. The Bullard and Gormley Company has long been known for the thoroughness of its business transactions. Always having on hand a large and varied stock of hardware supplies, this company was able to make prompt deliveries. It is a source of confidence to a hardware retailer to know that in his territory is a company that can supply him with hardware supplies upon short notice. Such is the Bullard and Gormley Company. It was through conscientious dealing with its customers that this company was enabled to enlarge its business and it announces a continuation of its willingness to cooperate with hardware dealers. Among the things furnished by it are: Garden tools, general and builders' hardware, mechanics' tools, cutlery, guns, ammunition, sporting goods, and fishing tackle. For specific information write to the Bullard and Gormley Company, 54-62 East Lake Street, Chicago, Illinois.

HARDWARE DEALERS OF LOUISIANA MAKE PLANS FOR CONVENTION.

Plans are already in process of formation for the Fourth Annual Convention of the Louisiana Hardware and Implement Association, which will be held May 10 and 11, 1920, in Alexandria, Louisiana. According to R. D. Nibert, Secretary-treasurer of the organization, an effort will be made to conduct the sessions as a strictly business convention.

Manufacturers, jobbers, and their representatives are cordially invited to meet the dealers at this Convention for the purpose of better acquaintance and closer and more harmonious cooperation. It is felt that no more important work can be accomplished than that of having the two most important agencies in the distribution of hardware gain a better understanding of each other's problems.

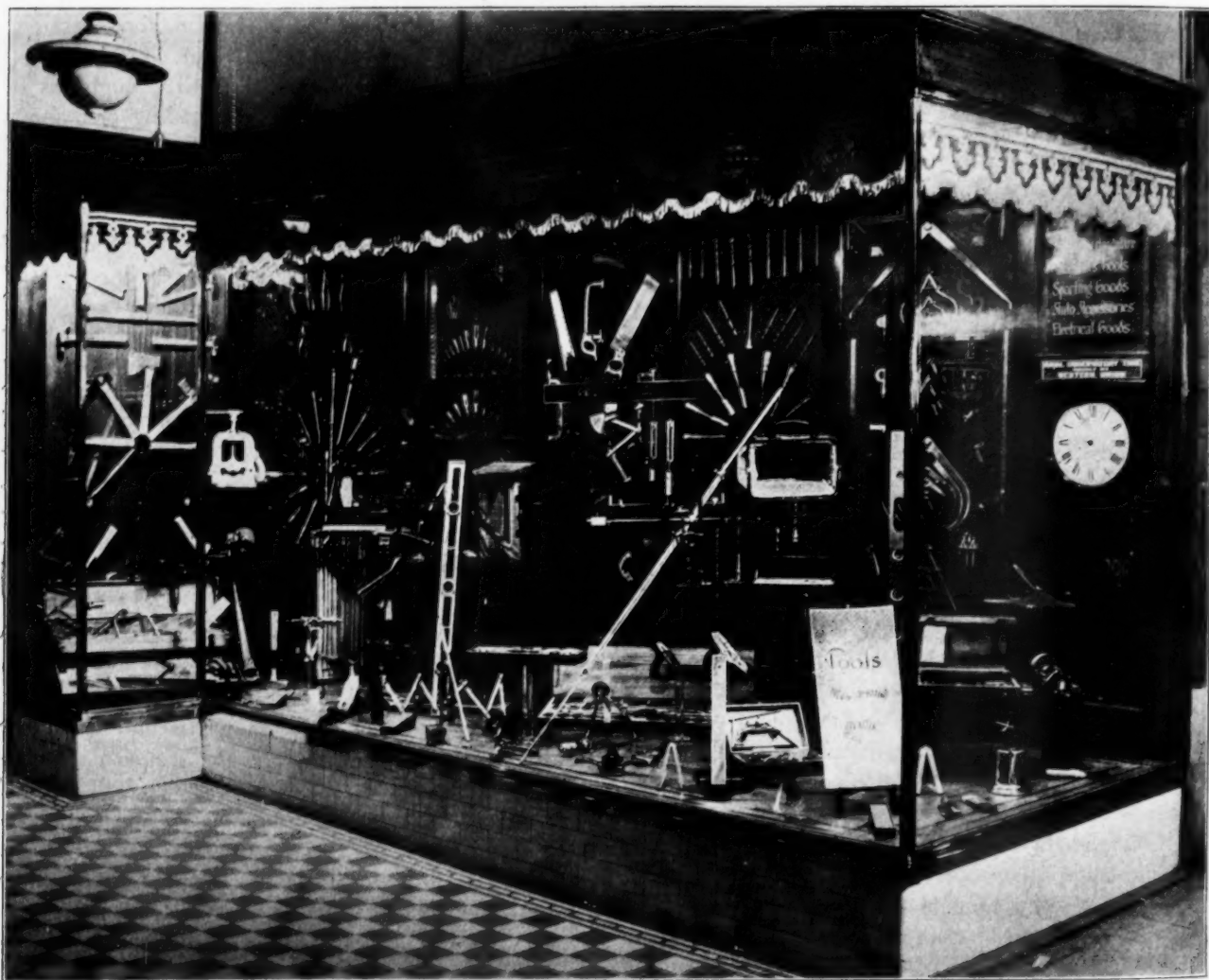
The officers of the Association will not work out any set plan of exhibits this year but manufacturers and jobbers having new goods to show will be welcome. They can make their own arrangements regarding their displays. The only courtesy requested by the Association being that they do not permit the exhibits to interfere with the convention sessions. A very interesting program is being prepared and dealers and others in attendance are requested to bring their wives.

EXHIBITS IN AMERICAN ARTISAN WINDOW DISPLAY CONTEST

AWARDS SPECIAL HONORABLE MENTION FOR WINDOW DISPLAY OF TOOL ASSORTMENT.

It has been claimed by men of recognized learning that science has failed in this, that it has not taken into consideration the human element—it has dealt too

Where the goods to be arranged in a display are highly colored, or of a naturally attractive make, the matter of making an exhibit is not difficult. But in an instance where only articles of like appearance can be employed, the greater is the work placed upon the trimmer. That a window display of tools and hardware is hard to arrange in an attractive manner will



Window Display of Tools Awarded Special Honorable Mention in AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition. Arranged by Claude Shelton for the Southern Hardware Company, Tulsa, Oklahoma.

closely with abstract relations. A lesson can be taken from this which will prove valuable in window display arrangement. In making a window exhibit the trimmer should not deal merely with goods. He must first of all take into account the human element. The arrangement must be made attractive and interesting, while the mechanical attributes of the goods shown must receive secondary consideration. However, they can not be entirely subordinated. Instead of putting the mechanical qualities of a tool in the foreground, the first aim should be to arrange the entire display so that it will have the power of attraction. Then the articles must be so placed that they will direct the interest of the observer to some particular product.

be agreed to by window dressers of wide experience. In fact, a small percentage of the windows in which are displayed assortments of tools serve the purpose of arresting attention. Therefore, Special Honorable Mention was given by the Judges in the Window Display Competition of AMERICAN ARTISAN AND HARDWARE RECORD for the display of tools, shown herewith, arranged by Claude Shelton, for the Southern Hardware Company, Tulsa, Oklahoma.

In every detail this exhibit conforms with the best practices of window displaying. It has the power of drawing attention, holding interest, and persuading to possess. The notion that tools can not be attractively arranged is swept away by this window arrangement.

Even though the assortment is large, the interest of the observer does not flag. Each part of the exhibit contains features of value. To the on-looker who is interested only in bits, the back panel containing these articles is easily observed. So, throughout the entire window, related tools are grouped together so that the passer-by can center his attention on the articles which interest him most. It is well when showing tools to place an assortment in the window. The mechanic always wishes to enlarge his supply of tools. The handy man about the house never has all the articles he desires. In the home, a sharper saw, a newer hammer, or a better tool of any kind, is always needed. Hence the advisability of arranging an assortment.

Panels were used in the window display shown in the accompanying illustration to good advantage. Tools of one kind were attached to a single panel. Being removable, the placing of the articles did not require as great an amount of work as would otherwise be necessary. Dark red cloth was employed to drape the panels, thus giving sharp contrast to the display.

Mr. Shelton did not cumber the window with a large number of placards. He trusted to the arrangement to explain itself—a much better way than the use of many printed notices.

Every day people who are in need of tools pass by hardware stores and never think of buying because their requirements are not pressing enough. However, where a window contains a display like the one illustrated herewith, the passerby is persuaded to purchase. Hence, this exhibit served its purpose.

RAYMOND MARSH JOINS SYRACUSE WASHING MACHINE CORPORATION.

Announcement is made from the offices of the Syracuse Washing Machine Corporation, Syracuse, New York, that Raymond Marsh has been appointed its Advertising and Sales Manager. Mr. Marsh was largely instrumental in the organization four years ago of the American Washing Machine Manufacturers' Association with offices at 10 La Salle Street, Chicago, and has since been its secretary. Four years of experience with this association of washing machine manufacturers has fitted him with a wide knowledge of the industry in general and made him exceptionally well qualified to fill the position of Sales and Advertising Manager with the Syracuse Washing Machine Corporation.

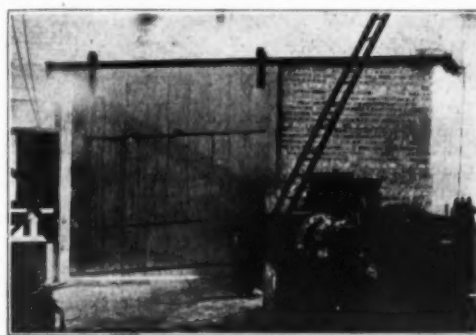
Previous to his connection with the American Washing Machine Manufacturers' Association, he was engaged in commercial advertising work in Iowa. He is a native of Scranton, Pennsylvania, a graduate of Wesleyan University, Middletown, Connecticut, attended the Harvard graduate school at Cambridge and then taught for a time in Yale University.

The Syracuse Washer Corporation was organized in July, 1917. Due to the rapid growth of the business, the Company was recently reorganized under the name of the Syracuse Washing Machine Corporation. A new modern fireproof plant is being erected on a 25-acre tract of land. The factory of the building will be one-story fireproof construction, with second floor for administrative and executive offices, including fully equipped cafeteria covering 10,000 square feet floor

space, an auditorium for the instruction of workmen in the different phases of the industry, as well as experimental department and museum.

EQUIPMENT SAVES MANY DOLLARS.

To repeat that the majority of the fires which occur in this country could be made less destructive if the proper precautions were taken beforehand, would be to reiterate a fact which could be ascertained upon casual observation. Here and there in almost every community in the country can be found illustrations which emphasize the point. Today there are on the market devices which, if installed at the proper time, would have saved many thousands of dollars lost as the result of fire. In the accompanying illustration is shown a Richards-Wilcox Fire Door Equipment which is said to have saved \$1,500,000 at the Universal Tractor Works, Moline, Illinois. On the opposite



Richards-Wilcox Fire Door Equipment Which Saved \$1,500,000, Made by the Richards-Wilcox Manufacturing Company, Aurora, Illinois.

side of the wall on which this door is installed, within five feet from it, the intense heat melted machine bases and iron castings and burned cement beams like wood. Attention is called to the stains on the door where the enamel melted off the fixtures and ran down the surface of the door. In withstanding the particular fire referred to herewith, the contentions of the Richards-Wilcox Manufacturing Company, makers of Richards-Wilcox Fire Door Equipment, are given much force. Here in a practical instance is demonstrated the fire resisting qualities of this company's products. Richards-Wilcox Fire Door Equipment is so built that it will automatically control possible fires and confine them to a small section of the building in which they are placed. All these products are inspected and labeled under direction of the Underwriters' Laboratories, Incorporated. The metal used in the construction of Richards-Wilcox Manufacturing Company's Automatic Fire Doors and Hardware is of a high quality, selected particularly for its fire-resisting properties. The mechanical details of this company's goods are well formed. The large assortment and variety of the products made by the Richards-Wilcox Manufacturing Company affords an exact selection. Fire doors and equipment can be furnished for any kind of building. In each door, the quality is uniform and the service it will give can be relied upon. Those interested who would like to procure further details should write to the Richards-Wilcox Manufacturing Company, Aurora, Illinois, and inquire for Folder SF-17, showing actual instances of property saved by Richards-Wilcox equipment.

PROPOSES MERGER OF STANLEY RULE AND LEVEL COMPANY WITH THE STANLEY WORKS.

At a joint meeting of the directors of both corporations in New Britain, Connecticut, held March 4, 1920, a proposal for the purchase of the Stanley Rule and Level Company by the Stanley Works was presented. It was decided to submit the matter to the stockholders without delay. The semi-official statement from the Stanley Rule and Level Company concerning the proposed merger is as follows:

"The directors of the Stanley Rule and Level Company and the Stanley Works have agreed to submit to their respective stockholders at stockholders' meetings to be called within the next two weeks a proposition looking towards the sale of the manufacturing business of the Stanley Rule and Level Company to the Stanley Works, in exchange for 7 per cent cumulative dividend non-voting preferred stock of the Stanley Works.

"The project will bear the favorable recommendation of all directors and officers of both companies and, if favorably received by the stockholders, will result in the merger of the Stanley Rule and Level manufacturing business into the Stanley Works.

"The price to be received by the stockholders of the Stanley Rule and Level Company can not at this time be definitely stated, because of various questions of tax payments and reserves; but it is expected that ultimately on the dissolution of the Stanley Rule and Level Company the amount received by their stockholders from this sale, together with the assets reserved from sale, will amount to a substantial advance over the present market price of the Stanley Rule and Level stock.

"The fact that the Stanley Works and the Stanley Rule and Level Company are engaged in a similar, but not competing, line of manufacture and that the combined manufacturing and selling forces of the two companies will be of mutual assistance and benefit to each other have been a material consideration in influencing the directors to recommend the proposed consolidation.

"The manufacturing and selling forces of the Stanley Rule and Level Company will continue substantially as heretofore and the operation of the two companies will go along with very little change.

"The transfer books of both companies are closed as of 12M March 4, 1920, and until after the date of the stockholders' meetings."

A statement, practically the same as the foregoing, was issued to the stockholders of the Stanley Works, and also contained the announcement that the transfer books of the company are closed. The following is a copy of the notice:

"A meeting of the stockholders of this company will be called within a few days, at which matters of great importance and possible advantage to the stockholders will be submitted.

"In view of these circumstances, the directors have voted to close the stock books of this company as of 12 o'clock noon, March 4, 1920, and until after said stockholders' meeting.

"An announcement and notice of this stockholders' meeting will be sent to all stockholders within two weeks.

THE STANLEY WORKS,

"By E. W. CHRIST, Secretary.

"March 4, 1920."

The present officers and directors of the Stanley Rule and Level Company are: President, A. W. Stanley; Vice-President, Robert N. Peck; Second Vice-President, Philip B. Stanley; directors, the officers and George P. Hart, H. S. Walter, W. J. Moore, of New York, Meigs H. Whaples, of Hartford, and Frederick G. Platt.

The officials of the Stanley Works are: Chairman of Board of Directors, George P. Hart; President, E. Allen Moore; Vice-Presidents, Clarence H. Bennett and Walter H. Hart; Secretary, Ernest W. Christ; Assistant Secretary, P. F. King; Treasurer, Louis Young; Directors, G. P. Hart, E. A. Moore, C. H. Bennett, W. H. Hart, E. W. Christ, H. H. Pease, F. G. Platt, Frederick S. Chamberlain and Felix W. Stanley. The purchase of the Stanley Rule and Level Company by the Stanley Works will help to spread out the scope of the Stanley Works from Plainville to Berlin. The Stanley Works Plant extends along the railroad for a long distance from Black Rock Bridge and the Stanley Rule and Level Company, starting at the depot and with its "farm" buildings at the southern end of the city, takes it nearly to the town line.

Foundation of the large and important part occupied by the Stanley Rule and Level Company in the industrial life of this city and, in fact, of the country, was laid by Thomas S. Hall and Frederic Knapp when, in 1853, they began the manufacture of levels and plumbs in a small building on the present site of the large plant. In 1854, a joint stock company was formed under the name of Hall and Knapp, capitalized at \$15,000. Two years later, the capital was increased to \$20,000.

The manufacture of rules was entered into when Augustus Stanley, Timothy W. Stanley and Thomas Conklin formed a partnership, Mr. Conklin having been engaged in the business at Bristol, Connecticut. This company bought the Bristol business and the production of rules was commenced on the top floor of the building erected on Elm Street by Seth J. North. It was known as the Sargent Building. In 1855, Seth Savage's rule business in Middletown was brought to New Britain and consolidated with the local company, which purchased the business, and the increased production went on in the upper story of the North and Stanley factory on the south side of Park Street. The number of workmen was increased and foundations were laid for a new company.

In July, 1857, the Stanley Rule and Level Company was organized by amalgamation of all these branches and the business was established in the present buildings at the corner of Church and Elm Streets. The company was capitalized at \$50,000. From that time on, the company flourished, adding, in 1862, the handle business of Augustus Stanley, and a year later the business of C. L. Mead in Brattleboro, Vermont, was brought. For a short time the business was carried on in New Haven, but finally it was removed to New Britain, where all the production went

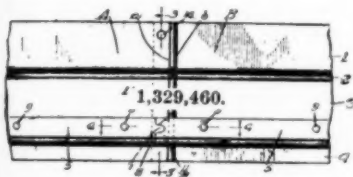
on, and a large warehouse for the sale of the goods was established in New York.

The plant has been enlarged considerably in the last half century. In 1864, the capital was increased to \$100,000 and three years later it was doubled. In 1881, it was increased to \$300,000 and in 1888, it was increased to \$400,000. The capital stock now is \$2,000,000. Henry Stanley was the first president, holding the office from the time the concern was formed until his death in 1884. He was succeeded by Charles L. Mead, who had been in charge of the New York warehouse.

SECURES PATENTS FOR DOOR HANGER TRACKS AND HOUSING.

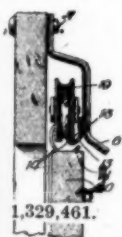
Under numbers 1,329,460, and 1,329,461, United States patent rights have been procured by Peter Frantz, Sterling, Illinois, assignor to Frantz Manufacturing Company, Sterling, Illinois, a Corporation of Illinois, for a door hanger track, and a door hanger track and housing described in the following paragraphs:

Number 1,329,460:



In a device of the class set forth, a combined housing and track to inclose and support the hangers of a door consisting of sheet metal sections secured together and bent longitudinally into the desired shape, and having transverse integral reinforcing members provided at intervals along the length metal sections and providing the stiffness necessary for supporting the door.

Number 1,329,461:

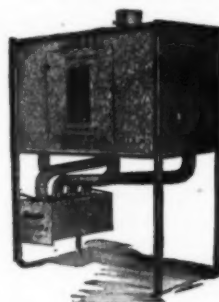


A combined door hanger track and housing comprising sheet metal housing sections bent to form a housing having an upper attaching flange and a lower inclined water shed flange, with integral walls and connecting the two flanges, the end of one section overlapping the other, so that a lap joint is formed from the upper edge of said attaching flange to the lower edge of said water shed flange, a bolt inserted through the upper portion of said lap joint to connect the sections together and to secure the housing to the building, and sheet metal track sections secured to the inner surface of the housing, each track section being shorter at both ends than the housing section, the track sections being shaped to form a straight butt joint between the ends thereof, with the butt joint located approximately midway between the end edges of the thereof to support the housing and track; these members following the cross-sectional shape of the sheet housing section, so that the end of one housing section is firmly held between the end portions of the track and housing of the other section, and whereby each track section is supported entirely by its own housing section, the track in cross section extending downwardly and inwardly to form a trough, and then upwardly and inwardly and then downward to form a

rounded tread portion for the track, which also stiffens the track sections to keep them in alinement.

EFFICIENTLY SMOKES ALL MEATS.

In the illustration herewith is depicted the "Ideal" Meat Smoker, manufactured by the Chatsworth Manufacturing Company, Chatsworth, Illinois. The meat smokers which have and are being sold by mail order houses have been found inadequate for the needs of the farmer. To set together these meat smokers required more mechanical skill than could be expected from the average farmer. The result of the difficulty



Number 3 "Ideal" Meat Smoker, Made by the Chatsworth Manufacturing Company, Chatsworth, Illinois.

experienced in putting these contrivances together is a loosely formed meat smoker which does not give satisfaction. The "Ideal" Meat Smoker relieves the purchaser of all intricacies attendant upon putting many small parts together. Being substantially built, it requires comparatively little mechanical skill to place the few parts in place. In construction the device illustrated herewith differs materially from the many types now on the market.

The "Ideal" Meat Smoker has a large, substantially built sheet steel drum mounted on $\frac{1}{4}$ by $\frac{3}{16}$ angle iron. These parts are put together and carefully tested in the factory of the manufacturers. The "Ideal" Meat Smoker will properly hold and smoke hams, shoulders, bacons, sausages, and other meats. Four pipes run from the fire box to different parts of the sheet metal drum, thereby giving equal distribution of the smoke. As a result, the meats are evenly and thoroughly smoked. In the fire box there is a separate fire pot that is so set as to receive a perfect circulation of cold air which is inducted through the draft door. The air circulated in this way insures a brisk fire at all times. Mounted on non-breakable casters, the "Ideal" Meat Smoker is as easy to handle as a piece of furniture. Thirty-six hours is the time required for smoking. Dealers who wish to procure information relative to handling this profitable article should write to the Chatsworth Manufacturing Company, Chatsworth, Illinois.

IS CANDIDATE FOR RE-ELECTION AS MEMBER OF YALE CORPORATION.

Alumni of Yale University who are eligible to vote for a member of the university corporation, have received blanks calling attention to the expiration of the term of Henry B. Sargent of New Haven, Connecticut, next June, and asking for nominations to fill the vacancy. Mr. Sargent is president of Sargent and Company, hardware manufacturers of New Haven, Connecticut.

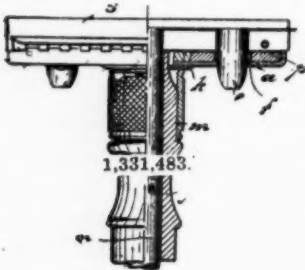
It is understood that Mr. Sargent has consented to stand for election next June and it was regarded unlikely today by graduates that any opposing candidates would enter the field. He has rendered valuable services as a member of the trustee board and general satisfaction is felt at the assurance that he will again be a candidate.

FRIENDS GIVE FAREWELL DINNER IN HONOR OF LLEW SOULE.

Always good natured, obliging, cheerful, and having a fine sense of humor to keep him from being dull or solemn, Llew Soule, Editorial Manager of the Chicago offices of the Hardware Age, of New York City, fully deserves the promotion which he has just received to the editorship of Hardware Age, in succession to his brother Roy Soule, who has been made Vice-President of A. C. Penn, Incorporated, New York City, manufacturers of safety razors. Llew Soule left Chicago this week for New York City to assume the duties of his new position. A formal dinner in his honor was given in the rooms of the Hardware Club of Chicago, 11th Floor State and Lake Building, Lake and State Streets, Chicago, Illinois, by a number of his friends. Informal speeches were made at the dinner in which the many lovable qualities of Llew Soule were praised by the speakers and every wish for his continued success expressed. As a token of appreciation and reminder that his friends will continue to hold him in their affectionate memory, he was presented with a diamond stick pin at the close of the dinner.

SECURES PATENT FOR SAFETY RAZOR.

Under number 1,331,483, United States patent rights have been procured by Arthur William Butterfield, Samuel Butterfield, and Arthur Nield, Oldham, England, for a safety razor described in the following:



A safety razor, a base having transverse slots, guard sections movable toward and from each other and having studs movable in said slots; gears mounted for rotation in the base and having cam slots in which said studs of the guard

sections are also engaged, a handle mounted for rotation, and a gear revolved by the handle and arranged between and in engagement with the first named gears.

BECOMES SALES REPRESENTATIVES FOR SAFETY RAZOR COMPANY.

The development of Chicago as a great cutlery market and its advantageous position as a distributing center have attracted the attention of progressive manufacturers. A. C. Penn, Incorporated, New York City, maker of safety razors, has secured McCormick, Grant and Company, Incorporated, 187-189 North Wabash Avenue, Chicago, Illinois; as sales representatives for the A. C. Penn line of safety razors in the Chicago territory.

RETIRES FROM BUSINESS UNTIL A NEW LOCATION IS SECURED.

The proprietor of the Western Sales Company, 1007-9 Prairie Avenue, Kenosha, Wisconsin, H. H.

Reinsdorf, has sold the store building and is closing out his entire stock of hardware. He will discontinue business after June 1st for two or three months when he will have a new location. In the meantime, jobbers and specialty houses will save labor and expense by discontinuing to send him catalogues, circulars, and other sales literature.

TRADE-MARK IS PATENTED.

The E. I. Du Pont De Nemours and Company, Wilmington, Delaware, have secured copyright on



the trade-mark shown in the accompanying illustration, under serial number 127,550. The particular description of

goods is granular and gelatinous explosives. The company claims use of the word "du Pont" continuously since 1802 in connection with granular explosives and of the word "du Pont" in an oval on gelatinous explosives since May, 1909, and on granular explosives since March, 1911. The claim was filed January 24, 1920.

ROY SOULE IS NOW VICE-PRESIDENT OF A. C. PENN, INCORPORATED.

The thorough knowledge of the cutlery business which he displayed while editor of Hardware Age, New York City, coupled with his uncommon ability, are chiefly responsible for the election of Roy Soule as Vice-President of A. C. Penn, Incorporated, makers of safety razors, New York City. He has definitely severed his relations as editor of Hardware Age in which position he has been succeeded by his brother, Llew Soule, formerly of Chicago.

ADVERTISING IS CLOSELY RELATED TO PRODUCTION COST.

The relation of advertising to production cost should receive careful consideration. Primarily advertising is a lever to increased production. It is a means whereby a greater demand upon the output of a plant is created. Success in most manufacturing lines depends as much on selling ability as on fabricating ability. Without development of extensive markets, industries remain relatively small, and cater to local needs. The manufacturer who expands his market is the one who is able to produce on a large scale, and who thereby enjoys—and passes on to consumers—the advantages of purchasing in large quantities, of division of labor, of utilization of by-products, of the best use of machine power, etc. Advertising is the most economical and effective device that has been discovered for expanding a manufacturer's market.

At the very root of the productive forces is the ability of the manufacturer to gain the prestige of the consumer. On this depends his degree of production. As pointed out in the foregoing advertising is simply an economical and effective method of demand creation and sales expansion. It has made it possible for those manufacturers who have been the most efficient

in its use to develop large-scale businesses, with the resulting economies in the expense of production and distribution. It has helped in the elimination of those least fit to survive.

IS PLEASED WITH AMERICAN ARTISAN.

TO AMERICAN ARTISAN AND HARDWARE RECORD:

In renewing my subscription to your splendid journal, I am glad to say that it is a pleasure to read your paper because it contains always much interesting and valuable information.

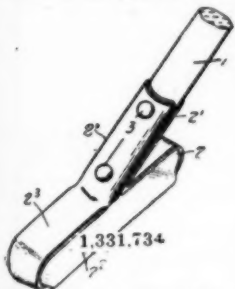
Yours truly,

CHARLES BYFORD.

Hamilton, Ontario, Canada, March 6, 1920.

OBTAINS PATENT FOR GARDEN HOE.

Harry Bemrose Wilson, Calgary, Alberta, Canada, has been granted United States patent rights, under number 1,331,734, for a garden hoe described here-with:



In a garden hoe, the combination with the handle, of a cutting member extending at right angles to the handle in T-form, and a portion extending parallel thereto above the same adapted

to form a guard between the plants and the cutting edge of the member.

PRESENTED BY BUREAU OF FOREIGN AND DOMESTIC COMMERCE.

The Bureau of Foreign and Domestic Commerce, through its Special Agents, Consular Officers and Commercial Attachés, is receiving information of opportunities to sell hardware and kindred lines in several foreign countries. Names and locations will be supplied on request to the Bureau in Washington or its District Offices. Such requests should be made on separate sheets for each opportunity, stating the number as given herewith:

32124.—A company in England desires to purchase roller skates for men and women. Quotations should be given f. o. b. New York. Reference.

32166.—An American firm having representatives in cities of Australia desires to secure agencies for the sale of iron and steel, galvanized sheets, wire, hardware and labor-saving devices. References.

32168.—A manufacturers' agent in Palestine desires to receive the exclusive agency from manufacturers for the sale of hardware. Quotations with catalogues and full information are requested. Reference.

32171.—A merchant in Greece desires to secure an exclusive agency for the sale of aluminum kitchenware, enameled ware, cutlery, etc. Correspondence should be in French or modern Greek. References.

32172.—A commercial agent in Switzerland desires to secure an agency for the sale of general merchandise and manufactured goods. Quotations should be given c. i. f. Genoa, Antwerp, and Hamburg. Payment against documents. Reference.

32176.—An American firm of manufacturers' agents, having a branch house in the Philippine Islands and being general distributors throughout the Orient, desires to secure exclusive agencies from manufacturers of carburetors and other appliances for automobiles. References.

32179.—A commercial agent in Italy desires to secure an agency for the sale of heating and illuminating apparatus for gas and electricity, automobiles and accessories. Correspondence should be in Italian or French. References.

32185.—An American firm maintaining offices in Mexico, Brazil, Argentina, Berlin, and Paris, desires to secure agencies for the sale of agricultural implements and enamelware. References.

32193.—An agency is desired by a man in England for the sale of ingenious and practical implements and appliances designed to save labor, time, or material for the use of the English farmer. Quotations should be given c. i. f. English port. References.

32195.—An importer in Spain desires to purchase general hardware. Correspondence should be in Spanish or French. Reference.

32196.—A traveling agency company in Switzerland desires to secure an agency for the sale of cash registers and labor-saving devices. References.

32201.—A commercial traveler in Switzerland desires to secure an agency for the sale of safety razors, hair clippers, dog collars, chains, whips, etc. Correspondence should be in German or French. References.

32206.—A partner in a firm of commission agents in England desires to secure an agency for the sale of plain and galvanized corrugated iron, barbed wire, plain fencing wire, 10 or 12½ gauge, and sheep-proof wire netting, 3 feet wide. Quotations should be given c. i. f. western Australia. Reference.

32209.—An importing company in South Africa has an order for 500 dozen of plain brass hinges for use in the manufacture of trunks, and desires to get in touch with a manufacturer for an immediate purchase. Sample and quotations f. o. b. New York or Boston are requested. Reference.

32213.—A former director of a factory in Italy desires to secure the representation of firms for the sale of tools. Correspondence may be in English. References.

32215.—A merchant in Turkey desires to secure an agency for the sale of hardware and tools, tinware, cobblers' supplies, metal products, porcelain ware, aluminum ware, rope and cordage, etc. Quotations should be given c. i. f. Turkish port. Payment, cash against documents. Reference.

32216.—A firm in France desires to purchase and secure an agency for motorcycles and accessories. Quotations should be given c. i. f. French port. Correspondence should be in French. Reference.

32219.—An importing commission house in Spain desires to secure an agency for the sale of tinplate for the manufacture of cans for food products. References.

32223.—A merchant in Sweden desires to purchase sporting goods. Quotations should be given f. o. b. steamer, or c. i. f. Swedish port. Payment, cash against documents through Swedish bank. Correspondence may be in English. Reference.

COMING CONVENTIONS.

Master Sheet Metal Contractors' Association of Wisconsin, Milwaukee, Wisconsin, March 17, 1920. Paul L. Bierbach, Secretary, 661 Hubbard Street, Milwaukee, Wisconsin. Illinois Sheet Metal Contractors' Association, Bloomington, Illinois, April 14 and 15, 1920. Frank I. Eynatten, Secretary, Peoria, Illinois.

National Warm Air Heating and Ventilating Association, Cleveland Hotel, Cleveland, Ohio, April 21, 1920. Allen Williams, Secretary, Columbia Building, Columbus, Ohio.

Southeastern Retail Hardware and Implement Association, embracing Alabama, Florida, Tennessee and Georgia State Retail Hardware Associations, Atlanta, Georgia, May 4, 5, 6, and 7, 1920. Walter Harlan, Secretary, 701 Grand Theater Building, Atlanta, Georgia.

Louisiana Retail Hardware and Implement Association, Alexandria, Louisiana, May 10 and 11, 1920. R. D. Nibert, Secretary-Treasurer, Bunkie, Louisiana.

Stove Founders' National Defense Association, Boston, Massachusetts, May 11, 1920. R. W. Sloan, Secretary, 826 Connell Building, Scranton, Pennsylvania.

Hardware Association of the Carolinas, Imperial Hotel, Greenville, South Carolina, May 11, 12, 13, and 14, 1920. T. W. Dixon, Secretary, Charlotte, North Carolina.

Southern Hardware Jobbers' Association, Marlborough-Blenheim Hotel, Atlantic City, New Jersey, May 11, 12, 13, and 14, 1920. John Donnan, Secretary, Richmond, Virginia.

American Hardware Manufacturers' Association, Marlborough-Blenheim Hotel, Atlantic City, New Jersey, May 11, 12, 13, and 14, 1920. F. D. Mitchell, Secretary, 4106 Woolworth Building, New York City.

Old Guard Southern Hardware Salesmen's Association, Marlborough-Blenheim Hotel, Atlantic City, New Jersey, May 12, 1920. R. P. Boyd, Secretary, Knoxville, Tennessee.

National Association of Stove Manufacturers, Boston, Massachusetts, May 12 and 13, 1920. Robert S. Wood, Secretary, National State Bank Building, Troy, New York.

National Association of Sheet Metal Contractors, Peoria, Illinois, June 8, 9 and 10, 1920. Edwin L. Seabrook, Secretary, 261 South Fourth Street, Philadelphia, Pennsylvania.

Ohio State Sheet Contractors' Association, Toledo, Ohio, July 20, 21, and 22, 1920.

ADVERTISING CRITICISM AND COMMENT

Helpful Hints for the Advertisement Writer

Illustrations are the most important part of some advertisements. Especially, in advertising copy depicting articles of ornamentation or decoration does a picture have a determining influence upon the effectiveness of the announcement. Though silverware is not used entirely for decorative purposes, an illustration with expressive details is necessary. The picture in the advertisement of the Jones Hardware Company, 210 South Main Street, Greenville, South Carolina, reproduced herewith from *The Greenville Daily News*, Greenville, South Carolina, stands out prominently because of the liberal allowance of white space on all sides. The confidential statement following the illustration is well worded. In fact, the entire copy is based on it. A suggestion which it is believed that the writer of this copy will agree with is: This advertisement would be more attractive if it had a fancy



Give "Her" A Set of Silverware for Christmas

And she will remember you for years because the gift will give long and lasting use and pride of ownership. We've a wonderful assortment of silverware in a variety of patterns and various sized sets—knives, forks and spoons, salad forks, etc. Let us help you choose a most desirable gift from this assortment.

JONES HARDWARE CO.
 "The Quality Hardware Store"
 210 So. Main St Phone 66

border. At least, it is the general practice to surround silverware advertisements with highly decorative borders, in some cases true works of art.

* * *

With the increasing adaptability of merchants to the making of effective advertisements the work of the critic will soon be pushed into the background. Retailers do take hints and profit thereby. For instance, in the advertisement of the Fitchburg Hardware Company, 314-316 and 746 Main Street, Fitchburg, Massachusetts, reproduced herewith from *The Daily News*, Fitchburg, Massachusetts, can be seen details of arrangement which show traces of being

made by a mind that has more than a passing knowledge of making advertising copy. Though seemingly simple, there is a force in this advertisement which could well be followed with gainful results. Almost

Just For Fun, Boys' and Girls'

SLEDS

\$1.35 to \$5.50

SNOWSHOES \$6.50 to \$9.00

SKIIS \$2.00 to \$6.25

Fitchburg Hardware Co.
 "The Name Means an Aim"
 314-316 and 746 Main Street

the entire advertisement can be taken in at a glance. The word *sleds* stands out prominently. Underneath it in clear type is stated the price. Then the notice and price of the *snowshoes* and *skiis*, though a slight deviation from the bold heading—*skates*—nevertheless, is in good order and desirable. The motto of the Fitchburg Hardware Company, "The Name Means an Aim" is one full of meaning. It imparts to the reader the idea that this hardware store seeks to please him and would go a long way to do it. Though there is no rule by which perfection is measured, even the best advertisement will bear a suggestion of improvement. Would it not be better to say a few words concerning the quality and general make of the sleds referred to?

* * *

PUBLICITY BRINGS OUT TRUTHFULNESS.

An article that is misrepresented by publicity is sooner discovered than in any other way, and is soonest killed. And by that same avenue the good merchandise, well and truthfully represented by publicity, builds faster and truer than in any other way possible. This advertising becomes a two-edged sword for the reliable product—it boosts the good and weeds out the bad.

* * *

Business is the stimulus of production.

HEATING AND VENTILATING

SHOWS NEED OF LEGISLATION FOR WARM AIR HEATER INDUSTRY.

The need of legislation for the warm air heater industry was shown with unusual clearness by E. I. Dodd of the New Foundry and Furnace Company, Sioux City, Iowa, in an address at the recent meeting of the Western Warm Air Furnace and Supply Association, held February 26, 1920, in St. Louis, Missouri. According to John H. Hussie, Secretary of the Association, Mr. Dodd went to extraordinary trouble in obtaining the data on which he based his address. He secured the cooperation of the heating engineers of two of the largest public service corporations of Sioux City and together they visited fifty buildings of various kinds taken at random in different parts of the city. Their method was to ask permission of the home owner to inspect the heating plant. This required patience and perseverance. Whether legislation will improve conditions or not, it is certainly commendable when manufacturers take such a practical interest in the installation of the products. Mr. Dodd's address is as follows:

Address on "Legislation for the Furnace Man," by E. I. Dodd of New Foundry and Furnace Company, Sioux City, Iowa, Delivered at Meeting of Western Warm Air Furnace and Supply Association, Held February 26, 1920, in St. Louis, Missouri.

It seems only fitting at this time, that the subject with which I have to deal today, "Legislation for the Furnace Man" should be brought very forcibly before the members of this Association.

It is only one short year since the Western Warm Air Furnace and Supply Association was organized, and under the splendid leadership that we were fortunate enough to acquire, our Association has grown by leaps and bounds, and ranks well in influence, and actual improvement in the elimination of trade abuses among its members, with kindred organizations, and because of these conditions it seems only proper that at the beginning of a new year we should launch a more elaborate and arduous program for the coming year.

If I were to ask each individual member of this Association the point blank question, "Would proper legislation very materially benefit the manufacturer and jobber, educate the dealer along lines of proper installation, and secure for the consumer a good heating job?" I do not believe there would be a dissenting voice. And believing the above assumption to be correct and that the members of this Association are in hearty accord with a legislative program, I am pleased to present to you a report of a few concrete facts as to why a vigorous legislative program should be a part of the labors of this Association for the coming year.

Submits Results of Investigation.

The facts submitted are a partial report of three thoroughly competent engineers who actually visited and investigated 50 heating plants and compiled the following data.

Six furnaces out of fifty were recommended as being properly installed. (Proper installation being defined as a furnace with enough exposed radiating surface to heat the cubical contents intended to be heated to 70 degrees with outside resistance to 20 degrees below zero with warm air leaders the cross sectional area of each to emit flow of air enough to fill the room every seven to eight minutes. The cold air ducts to equal the total cross sectional area of all warm air leader pipes where inside circulation is used, and 70 per cent of the total cross sectional area of all warm air leader pipes when outside circulation is used.)

Four other furnaces were passed as fair.

Also it was found that 8 inch warm air leader pipes were being used in rooms as large as 15 feet 6 inches x 16 feet and no uncommon occurrence to find a 9 inch pipe where there should have been a 12 inch.

It also was found that furnaces were being used that did not have to exceed 60 per cent of the exposed radiating surface to heat the cubical contents they were intended to heat.

It was also found that the cross sectional area of the return air ducts had been cut down to as low as 47 per cent of the total cross sectional area of the warm air leader pipes and the common rule applied to return air in the 50 furnaces investigated was 60 to 70 per cent of the total cross sectional area of warm air leader pipes.

One furnace was found that the shortest warm air leader pipe was 11 feet 6 inches from hood to boot and the longest one 31 feet from hood to boot.

High Percentage of Fuel Wasted.

Also the measurement of the cubical contents of the buildings were taken, glass exposures and outside wall exposures were also noted, also the kind and amount of fuel used during a certain period of time and basing the deductions upon the heat units contained in the different kinds of fuel used the amount used and the cubical contents heated and concluding generously enough to cover every doubt, the bare fact was revealed that out of every 100 tons of fuel used 40 tons were wasted; and after making a 10 per cent deduction from this for ignorance and carelessness on the part of the public in not learning how to care for a plant still leaves us 36 tons out of every 100 tons of fuel used that can not be charged to any other account than the ignorance or the unscrupulous methods employed by the man who installed the job.

I do not wish to make the statement, gentlemen, that we can, through legislation, do away with all

the ills and evils ever present in the heating business, but we can eradicate many of the abuses practiced through ignorance and otherwise and extend to the public the protection deserved at the hands of the manufacturer, the jobber, and this Association, through legislation.

The concrete facts here presented, gentlemen, are only a part of the reasons why legislation should be enacted, and as speedily as possible for the furnace man, and I wish to present to you by comparison if you will permit, an entirely different phase of the legislative proposition.

The Need of Professional Prestige.

If you were to call a physician to your home and some member of your family were indisposed, and upon arrival of the physician he asks what seems to be the trouble with the patient, you immediately proceed to recite to the physician that the glands of the neck are swollen, the throat is sore, and every symptom points to tonsillitis, but as the physician examines the patient and reports the patient to have stomach trouble and not tonsillitis, and again you refer to swollen glands and sore throat but the physician says stomach trouble, and you are forced to acquiesce in the report that stomach trouble is correct, yet you are as well acquainted with symptoms and care of disease as the physician is acquainted with the anatomy of a heating plant, but, sell the physician a furnace and he immediately begins to tell you how he wants it installed, and no amount of reasoning many times will change his mind and you will be told that if you can not install his way he will get Mr. Smith who will. Why did you not tell the physician that the members of your family had tonsillitis and if he could not treat said member for tonsillitis Dr. Jones would. Because you are not at par in your profession, with the physician in his profession. Why? Because the physician and every other professional man has caused, through association, legislation to be enacted, which gives him "Professional Prestige," which places him 99 per cent above you in your profession without legislating for yourself the same "Professional Prestige" that any other profession has.

And who are you today in the eyes of the public, Mr. Furnace Man? "The guy that works at the Foundry."

Are we not justified in claiming that the heating engineer is just as professional in his profession and as much entitled to "Professional Prestige" through legislation as any other class of men?

Says Need of Legislation Is Urgent.

Gentlemen, it has been a great pleasure to present to you, through facts and figures, and comparison, the urgent need of legislation for the furnace men, and it is hoped that the facts, figures, and comparisons will have found favor enough among the members of this Association that before the next annual meeting, legislation will have been enacted for the Furnace Man.

R. J. Schwab and Sons, makers of the Gilt Edge Furnaces, Milwaukee, Wisconsin, plans a two-story addition, 48x50 feet.

ELECT NEW DIRECTORATE AND VOTE AN INCREASE OF CAPITAL STOCK.

At the annual meeting of the stockholders of the Newark Stamping and Foundry Company held in the office of the Company, Newark, Ohio, the following directors were elected:

J. N. PUGH, President J. N. Pugh and Company, Brokers, Newark, Ohio;

F. W. MOSER, Newark, Ohio;

R. A. GULICK, Secretary, May-Fiebeger Company, Akron, Ohio;

GOODNOW JOHNSON, Manager, Bellaire Stove Company, Bellaire, Ohio;

R. G. BARBER, Newark, Ohio;

C. F. SITES, Capitalist;

E. F. BALL, Newark, Ohio.

The reports of business for the year 1919 disclose so favorable a condition of affairs that it was decided to increase the capital stock of the company from \$15,000 to \$30,000. The May-Fiebeger Furnace Company is a subsidiary organization of the Newark Stamping and Foundry Company, and is the selling company for the line of warm air heaters. The stamping department of the Newark Stamping and Foundry Company manufactures auto accessories.

ELECTS OFFICERS FOR THE YEAR

At the recent meeting in St. Louis, Missouri, of the Western Warm Air Furnace and Supply Association, the following officers were chosen to administer the affairs of the organization during the ensuing term.

President: FRED L. NESBIT, of Standard Furnace and Supply Company, Omaha, Nebraska;

Secretary: JOHN H. HUSSIE, of John Hussie Hardware Company, Omaha, Nebraska;

Treasurer: J. B. FEHLIG, of Excelsior Heating Supply Company, Kansas City, Missouri.

Both Mr. Hussie and Mr. Fehlig were re-elected to their respective offices. The newly chosen President, Fred L. Nesbit, was not in attendance at the meeting, being in California at the time. His fellow members elected him during his absence in the full conviction that he would not refuse to serve the Association. Their confidence in his willingness to work for the welfare of his fellow members was justified by his acceptance of the position.

OFFICES OF THE CENTRAL HEATING SUPPLY COMPANY ARE IN FULL OPERATION.

Notwithstanding the sensational features of the fire of February 27, 1920, which attacked the building at 129-131 West Lake Street, Chicago, Illinois, in which the Central Heating Supply Company is located, there has been no cessation of that company's business nor any delay in the handling of its orders. Most of the company's stocks and supplies are carried in its new warehouse in the central manufacturing district of Chicago and prompt service can be given to all its patrons.

HEATING AND VENTILATING.

Heating Apparatus and Drafts.

By N. G. NEERE, A. M., M. E.

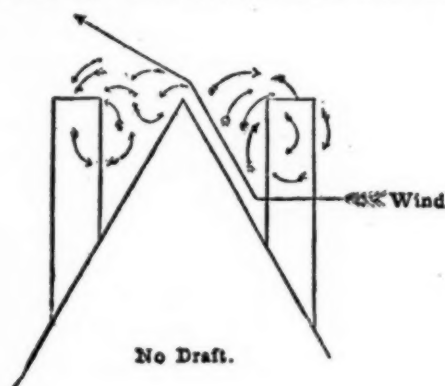
It requires no technical education to decide in one's mind that fuel enclosed in heating apparatus will not burn satisfactorily without draft, and that there is no draft inherent in a stove or furnace.

But every dealer who has ever sold a stove or furnace has been annoyed by complaints of customers that the stove did not draw or that the draft of the furnace was not satisfactory.

It is hard to convince the average man that the heating apparatus for which he has just paid (or promised to pay) in good hard dollars, is not almost human, but as a matter of fact stoves have no respiratory organs and the fuel they contain will burn satisfactorily only when there is a satisfactory draft.

The man who makes or sells the stove or furnace is not responsible for the architecture of the house in which it is set up, and, therefore, can not be held responsible for the working of the apparatus.

Some dealers, even some who have been selling heat-



ing apparatus for years, unfortunately resolve in a hurry at times, when they receive complaints about a stove, range, or furnace which they have sold, that the manufacturer is to blame, that he is marketing an unsatisfactory article. Their minds are upset, their digestion disturbed and their tempers soured thereby.

If such dealers would reflect for only a moment they would recognize the fact that the heating apparatus itself is not all of the plant required to do the work.

How About the Chimney?

A stove or furnace can not operate by itself. A chimney is among the necessary accessories, and the chimney is needed to create draft. Between the pipe collar of the stove and the top of the chimney there may be trouble that prevents the heating device itself from working satisfactorily, but in every case of trouble with a stove or furnace the dealer and the user must remember that the pipe and the chimney have other necessary functions to fulfill and if they do not work well trouble may ensue.

Nothing is more ridiculous than for a man to complain to the manufacturer of a stove, range, or furnace that it will not "draw," unless he is absolutely satisfied that the pipe and chimney are in proper shape and condition to create draft. Just as a fish can not live on dry land, just as a man can not live without air, so a stove or furnace can not do its work properly

without a plentiful supply of oxygen, fed to it to the cold air current that accompanies a good draft.

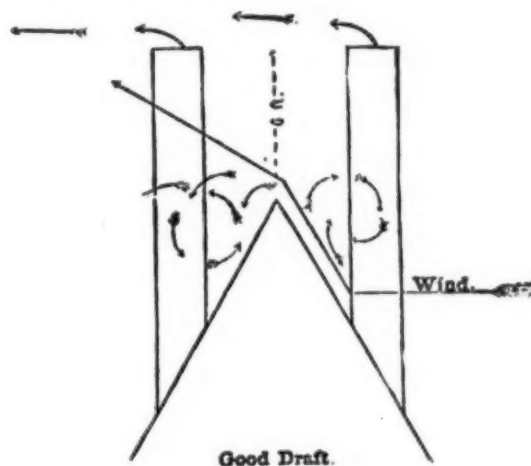
Manufacturers of heating apparatus in the United States nowadays are not turning out stoves and furnaces that will not work, because they are not fools or villains. The competition among them is so keen and the conditions are such that defective goods are invariably condemned before they leave the factory.

If the chimney to which the stove or furnace is set up has been properly adjusted, the stove or furnace will work and "draw," to an absolute certainty, unless an accident has happened to it in transit from the factory.

The Science of Draft.

The science of draft, like most of the domestic sciences, is comparatively a new study, but architects and engineers are giving to it more and more attention every day.

Heating and ventilation of buildings, large and small, is gradually becoming an exact science. Experience is teaching us right along and the faults hitherto



ascribed to the stove or to the furnace are now properly placed where they belong and are ascribed to the chimney.

It would be a good thing for the purchaser if manufacturers and dealers could furnish and guarantee a draft with every stove and furnace, but they have to deal with a condition and not a theory, with hard facts and brick walls.

Draft implies and requires a chimney and no manufacturer of house-heating devices, as yet, has had the hardihood to attempt to furnish a chimney with his goods. The best he can do is to point out to his customer how a good draft may be secured.

There are certain rules governing the construction of chimneys and the creation of drafts that can not be too well known. The axiom is as follows: *No air should pass through the chimney at any point that has not first passed the fire unless it is used to check the draft.*

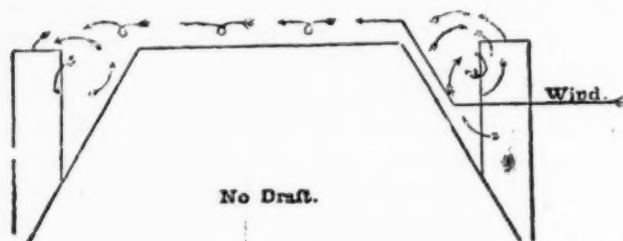
Bearing this axiom in mind, it is easy to see how the draft may become defective and the heating device fail to work satisfactorily by reason of defects in the chimney. Such defects are often easily remedied, and many of them are so common that every salesman of heating devices should be acquainted with their nature and the proper remedy for them. Some of these devices are described and prescribed for below.

To Cure Defective Draft.

Case No. 1. When the base of the chimney contains a large, old-fashioned, open fireplace, it often fails to furnish a satisfactory draft. The remedy is to fill up the flue with cement to within six inches of the pipe hole or to cut off the flue with a sheet iron plate, covering the plate with several inches of cement, so as to make it air-tight.

Case No. 2. When the chimney has been constructed with a flue extending downward to the floor or into the cellar, the cold air below the pipehole chills the upper part of the chimney, makes the air heavy and hinders the rise of the smoke. Filling up the flue with cement to a point six inches below the pipe-hole or cutting the flue off with an air-tight sheet iron plate will remedy the trouble and create a draft.

Case No. 3. When the chimney of a kitchen is lower than the main part of the house, the wind circling over the house falls upon the kitchen chimney and beats down the smoke arising therein. In such



a case the remedy is to increase the height of the chimney or add a smokestack to its top, at least equal in height to that of the main building.

Case No. 4. When a building or a tree is contiguous to and higher than the chimney, the wind passing over and down from either taller object has the same effect as in the last case and hinders a proper draft.

Case No. 5. When there are several connections with one chimney, the problem of draft becomes somewhat complicated, but the general governing principle is that all the openings into the flue, except the one in use, should be tightly closed. A close, thoughtful, observance of this general rule will usually result in a cure of draft trouble.

Case No. 6. In old chimneys leaks of cold air are frequent through the mortar having dropped out from between the bricks. In such cases, of course, the remedy is obvious. An air-tight filling of plaster is imperative.

Case No. 7. In building chimneys, mortar sometimes drops and lodges in such a manner as partly to obstruct the flue, thereby decreasing the draft. In this case a heavy weight may be used and let down by a rope from the top of the chimney. It will dislodge the mortar and provide the draft.

Pointers for Chimney Builders.

It must always be remembered that a new or green chimney never creates a perfect draft, several weeks being sometimes required to dry the chimney thoroughly, so that it works properly.

It can always be remembered with advantage also that a chimney can hardly be too high. It should be higher than any other part of the house and higher than any other contiguous object.

Chimneys should be straight by preference and always smooth on the inside.

It is undesirable to combine the uses of heating and ventilation in one chimney. A smoke flue should not be used for ventilating purposes.

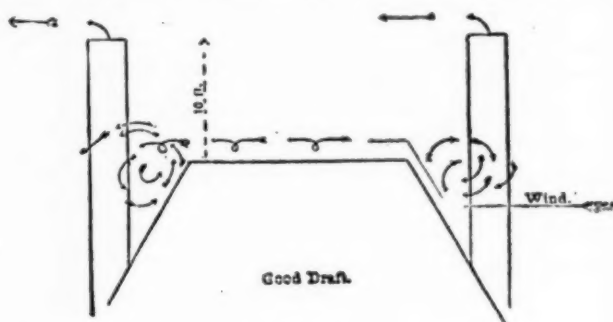
Just as a chain is only as strong as its weakest link, so the effective area of a chimney is only as great as the area at the smallest point.

Outside chimneys should be built thick enough to prevent the chilling of the interior, with its consequent diminution of draft.

Smoke Pipe Connections.

Connecting pipes should fit into the chimney hole snugly, so that no cold air may enter, and the pipe must not be made smaller to enter the chimney hole. If necessary, the hole should be enlarged.

Various kinds of pipe devices, such as the toothpick joint, are now manufactured for the purpose of remedying defects in drafts. Such smoke-pipe con-



nections should be familiarly known to every up-to-date heating engineer and dealer.

Armed with facts and information such as are here given, no dealer in stoves, ranges, or furnaces need fear the "come back" of the customer who kicks about the "draft" of his purchase.

It is essential to remember that the trouble is not with the heating device, but with the chimney or the smoke-pipe connections, and the dealer may cheer himself with the remembrance that the experience of the best heating engineers shows that nine-tenths of all complaints that come to them are on account of defective chimneys.

ENLARGES PLANT AS RESULT OF ITS SUCCESS IN FURNACE CASTINGS.

So great has been the success of the Osborn Foundry Company, of Racine, Wisconsin, in making castings that its trade has expanded to an extent which necessitates enlargement of its plant. Accordingly, an addition of 100 feet has been made to the Molding Room so that that part of the plant is now 240x92 feet. The Company has also added 185 feet next to its warehouse. Besides these buildings, the Osborn Foundry Company has another structure 100x92 feet.

NEW ROOFERS' UNION ASKS HIGHER WAGES FOR ITS MEMBERS.

Among the roofing manufacturing plants of Chicago, a new roofers' union is in the course of organization bearing the name of Asphalt, Tar and Ready Roofing Workers' Union. In a recent meeting held at 525 South Halsted Street, Chicago, Illinois, the members of the new union considered the proposition of

enforcing their demands for higher wages by going on a strike. After further deliberation, however, they came to the conclusion that it would be better to employ more reasonable means for obtaining their demands. Consequently, they rescinded their vote to strike and agreed to appoint a committee to communicate with the employers and to present to them a wage schedule calling for seventy-five cents an hour. According to Jack McInerney, Secretary of the Asphalt, Tar and Ready Roofing Workers' Union, the members of the union at present are being paid from forty to fifty cents an hour.

MIDLAND CLUB HAS GOOD MEETING.

The prevailing opinion at the meeting of the Midland Club held Thursday, March 11, in Hotel Sherman, Chicago, was that business is very, very good. The gathering was well attended and a number of new members were present. Because of the absence of President John D. Green, and Vice-President J. M. Triggs, the meeting was presided over by Louis Moore. It was brought about in the discussions that there are more orders by four hundred per cent than there were a year ago, and it is doubtful if the supply will equal the demand made for warm air heaters this year. There was much talk concerning the recent express ruling and considerable comment on freight classification Number 1 of the recent ruling.

J. M. McHenry reported progress made by the Illinois State University at Urbana, Illinois, in their work on heating and ventilating, and asked each and every member to suggest some work which the engineers and experts at the said university should next consider. The Estate Stove Company, of Hamilton, Ohio, Bridge and Beach Manufacturing Company, of St. Louis, Missouri, and May-Feibeger Furnace Company of Newark, Ohio, were elected as new members of the Midland Club at this meeting.

Allen W. Williams of Columbus, Ohio, Secretary of the Midland Club, made the new members feel perfectly at home.

COMPLETE PLANS FOR CONVENTION.

Arrangements for an excellent program, which will keep the delegates and their friends busy the entire day, have been completed for the approaching annual convention of the National Warm Air Heating and Ventilating Association, which is to be held April 21, in Cleveland, Ohio. The committees in charge of the plans for the convention have visited the Cleveland Hotel at Cleveland, Ohio, which will be the headquarters of the Association. The Convention will open at 10:00 o'clock in the morning, and will adjourn for luncheon which will be served on the same floor. Half an hour is allowed on the program for this refreshment and then the delegates will go back to finish their labors. At 6:30 o'clock in the evening they will sit down to a banquet in the Cleveland Hotel. W. R. Rose, of the *Cleveland Plain Dealer*, has been secured as the principal speaker. Several interesting talks will be made by men of prominence in the trade, and a very fine program carried out. Allen W. Williams,

of Columbus, Ohio, the enterprising and efficient secretary of the National Warm Air Heating and Ventilating Association is in active cooperation with the various committees with a view to assuring the highest possible degree of success and benefit for the forthcoming annual convention of the organization.

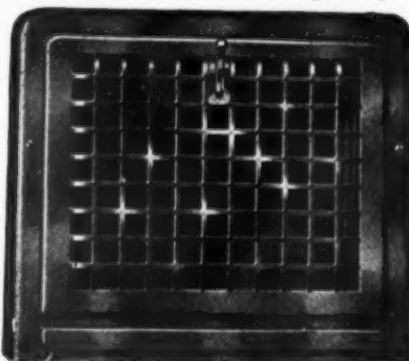
ENLARGES PRODUCTIVE FACILITIES AND CHANGES PERSONNEL.

The Rudy Furnace Company, Dowagiac, Michigan, has just completed a third addition to its foundry and manufacturing facilities. Now this company has an up-to-date plant, replete with all the modern machinery. Its molding room is 250x250 feet and another large room in its plant measures 80x200 feet. Recently The Rudy Furnace Company made a number of changes in its personnel with a view of increasing the value of its service.

Arthur F. Frazee, a graduate of the Michigan University and who also took a course at the Columbia University, is now secretary and manager of the advertising department. Charles Bieck is vice-president and sales-manager. Ed Snyder is factory manager. A. E. Rudolphi retains the office of president.

EMBODIES ADVANCED PRINCIPLES IN CONSTRUCTION OF REGISTERS.

The Auer Lattice Steel Baseboard Register, illustrated herewith, manufactured by The Auer Register Company, Cleveland, Ohio, is constructed in accordance with the best known principles for the making



Auer Lattice Steel Baseboard Register, Made by The Auer Register Company, Cleveland, Ohio.

of registers. Besides embodying such details which make it a distinctive product, this register can be easily installed. A patented deflector of simple make is installed in all Auer Registers of this type. The Auer Lattice as well as the Auer Steel Registers have deep back frames which telescope into the register box. There is thereby obtained a tight fitting connection. The registers of the kind illustrated herewith are fastened to the wall by two round head screws. The screws are furnished with each register and are made particularly for the purpose for which they are used. The screws are turned into the studs on the frame. According to the manufacturers, this is the only mode of fastening by which the register can be drawn tightly and securely to the wall. The Auer Lattice Steel Baseboard Register in connection with its technical perfections is a neat appearing article. It has a dignified-looking finish. Its luster harmonizes with a well built room. For extended details and prices dealers should write to The Auer Register Company, Cleveland, Ohio.

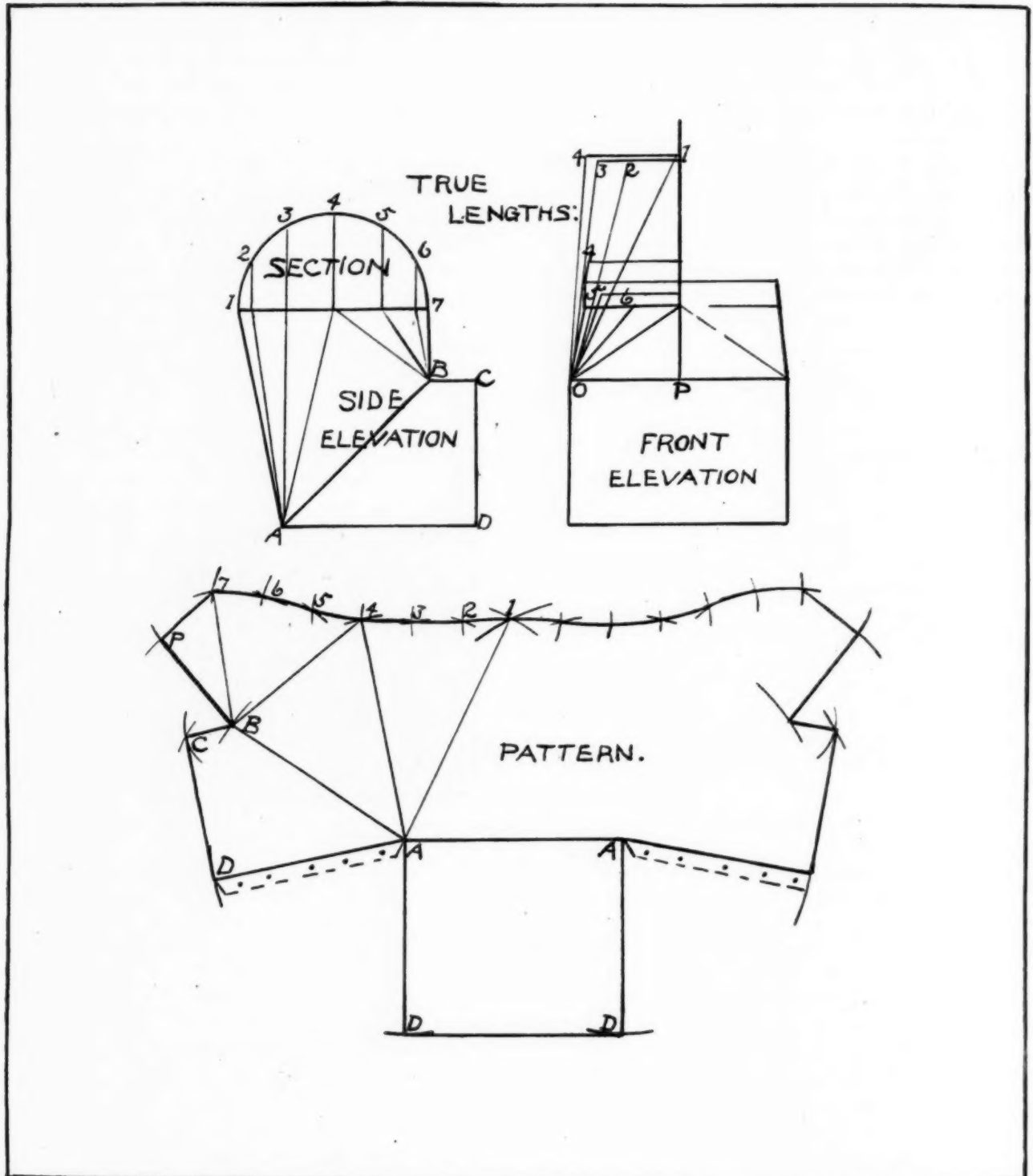
PRACTICAL HELPS FOR THE TINSMITH

PATTERNS FOR WARM AIR HEATER, COLD AIR INTAKE.

By O. W. KOTHE.

Cold air intakes are made in a great variety of different shapes. In fact, every employer has his own

satisfaction and also be quite easy to assemble. First draw the side elevation as shown by A-D-C-B-7-1 to the desired size, and the part 1-A-B-7 will be treated as a transition piece, and then afterward add the straight rectangular sides and bottom, while the top must be put in separate and is merely a flat piece of



Patterns for Warm Air Heater, Cold Air Intake.

ideas about it, and which is the most serviceable is the question. The one here shown should give good metal. The front elevation is merely drawn to obtain half the width as O-P, otherwise it is not necessary.

Describe the half section and divide in any number of equal parts and from these points drop lines to 1-7, after which draw them to the corners A and B as shown. Now to obtain the true length of these lines pick the line A-1 from elevation and place it as P-1 in front elevation; then O-1 will be the true length. Next pick line A-2 and also A-3 and A-4 from side elevation and set them on lines P-1, after which square out lines from these points and make them equal to those in section. In like manner pick lines B-4, B-5, B-6 and B-7 from side elevation and set them over on lines B-1 and square out lines equal to those in section and you have the true lengths to develop pattern with.

For the pattern draw any line equal to the width of front elevation as A-A', and, picking line O-1 from diagram and using A and A' centers \angle' strike and cross arcs in point 1 as shown in pattern. Set another pair of dividers equal to one of the spaces in section as 1-2 for instance and, using 1 in pattern as center \angle' strike arcs as at 2. Next pick line O-2 from diagram and, using A and A' as centers, strike arc as at 2. Repeat in this manner until the point 4 in patterns is established; then pick the miter line A-B from side elevation and, using A and A' as centers, strike arcs as at B. Now pick line O-4' from true lengths and, using 4 in pattern as center, cross arcs in point B. Now continue until the point 7 is established and then pick the space O-P from front elevation and using "B" as center strike arc as at P, then pick the straight line 7-B from side elevation and with 7 as center strike arcs in P. Now trace a line through all points where arcs cross and you have the net pattern for transition piece. To add the bottom set dividers equal to A-D and using A-A' as centers strike arcs as at D-D and drop lines as shown. Next add the sides by setting dividers to B-C and using B in pattern as center strike arc as at C; next strike the arc D equal to radius A-D in elevation. Now set dividers equal to A-C in side elevation and, using A in pattern as center, cross arcs as at C; and then change the height C-B and, using C as center, cross arcs to point D, and you have the side added. Laps for seaming or riveting must be allowed extra and a small piece of metal B-C of throat must also be added, because it will not work out right, owing to patching out the corners if it were added.

SELLS GOVERNMENT SHEET METAL EQUIPMENT AND MACHINERY.

Government sheet metal machinery, equipment, tools, etc., are being sold at reduced prices by Frederick J. Knoedler, 68 North Second Street, Philadelphia, Pennsylvania. Evidently this is surplus war stock and is declared to be of good quality. Material of this sort does not remain long in stock, hence sheet metal contractors who are interested should write to Frederick J. Knoedler for further information.

The Standard Steel Box Company, Allegan, Michigan, has been incorporated for \$15,000 by George H. Hurteau and others to manufacture sheet metal products.

EVERYTHING IS READY FOR ANNUAL CONVENTION WISCONSIN SHEET METAL CONTRACTORS.

No reasonable effort is neglected by the officers of the Wisconsin Sheet Metal Contractors' Association to secure the largest possible attendance at the forthcoming convention of that organization to be held March 17, 1920, in Hotel Wisconsin, Milwaukee, Wisconsin. A self-addressed postal card has been sent out to every member of the Association as well as to every sheet metal contractor in the state of Wisconsin asking them to notify the secretary whether or not they will come to the convention. The arrangements for the smooth working of all the details of the sessions have been developed so carefully that there is practically no likelihood of any delays in the carrying out of the program.

In view of the fact that only one day is to be devoted to the Sixth Annual Convention of the Wisconsin Sheet Metal Contractors' Association, the first thought in the minds of the officers is to avoid even the smallest waste of time during the meetings. By efficient management of the program and by doing away with needless parliamentary routine it is confidently expected that the delegates to the convention will be able to achieve as much during a single day as is usually accomplished in two or three days of more leisurely gatherings. The energetic secretary of the Wisconsin Sheet Metal Contractors' Association, Paul L. Biersach, is working at top speed and tension in order to have everything in readiness for the most profitable and successful convention in the history of the Association.

IS SURE THAT MIRROR REFLECTS SATISFIED PATRONS AND FUTURE CUSTOMERS.

It is not always vanity, but, on the contrary, frequently self-respect which prompts people to use a hand mirror. Particularly in our big industrial centers, there is always the chance of a heavy flake of soot landing on the tip of one's nose and thus rendering one's appearance undesirable for business interviews or transactions. It is a handy thing, therefore, to have a pocket mirror into which one may glance before making business calls or after returning to one's office or shop in order to see that the countenance is fairly free from smudges. The Witt Cornice Company, of Cincinnati, Ohio, therefore, does a service to its friends and patrons in sending out a pocket mirror which measures three inches in diameter and is substantially mounted. The back of the mirror contains an advertisement of one of the company's corrugated galvanized sheet steel products. The Witt Cornice Company is sure that these mirrors judiciously distributed in the trade will reflect satisfied patrons and future customers.

The young man who feels inclined to resent proffered advice should always bear in mind that the really wise man is always not only willing but glad to receive suggestions that he can employ.

GIVES EXAMPLE OF OLD FASHIONED SERVICE AND HOSPITALITY.

A single example is worth more than a million words. Much printer's ink has been spread over pages of books, magazines, and periodicals of various kinds in elaboration of the meaning of the word service. Clever phrases have been wrought upon verbal anvils to serve as new tools of expression with which to hammer out the meaning of service. But when all is said and written, the most powerful definition of service is service in action. It is a noteworthy characteristic of the Travelers' Auxiliary Association of the Michigan Sheet Metal Contractors' Association that its members have been trained to give service in the best and most beneficial sense of that much used

long to the Auxiliary.

A pleasant example of it was furnished during the convention of the Michigan Sheet Metal Contractors' Association held March 2, 3, and 4, 1920, in the Burt Auditorium, Saginaw, Michigan. A banquet was given to the delegates of that organization, Wednesday evening, March 3, in the Bancroft Hotel, Saginaw, by the Travelers' Auxiliary Association. Although, strictly speaking, it was not necessary to give to the guests additional proofs of the spirit of service which dominates the Travelers' Auxiliary Association, nevertheless, it was desired to strengthen and emphasize the spirit of hospitality at the banquet. Accordingly, the Travelers' Auxiliary Association selected a group of its members to serve as waiters on this occasion. They considered it no humiliation to per-



Members of Travelers' Auxiliary Association As They Appeared When Acting As Waiters at the Banquet Given by Their Organization, Wednesday Evening, March 3, 1920, in Hotel Bancroft, Saginaw, Michigan, to the Delegates of the Michigan Sheet Metal Contractors' Association During Convention in That City.

word. As sales representative of their various concerns, they have succeeded in promoting the interests of the companies which they represent by serving their customers in a spirit of friendliness and sincerity.

The idea of service and the practice of it are the very pith and marrow of the Travelers' Auxiliary Association. Its members know from experience that there are happiness and satisfaction in abundant measure as well as profit and progress in genuine service. They know, also, that the difference between service and servility is as vast as the space between our little globe and the farthest flung star. This is not merely a bit of fervent rhetoric, but the statement of a fact known and appreciated by the entire membership of the Michigan Sheet Metal Contractors' Association, in their dealings with the salesmen who be-

form such a task. On the contrary, they had in mind the idea of honoring their guests by the revival of an ancient custom, namely, that by which the host waits upon his guest with his own hands. The members of the Travelers' Auxiliary Association chosen to perform this charming service for their guests in the name of their organization were:

CHARLES F. NASON, Captain of waiters, Sales Representative of the Milwaukee Corrugating Company, Milwaukee, Wisconsin;

T. A. WARNER, of the Tuttle and Bailey Manufacturing Company, Chicago, Illinois;

H. P. MARTIN, of Michigan Employers' Casualty Company, Lansing, Michigan;

ROBERT JOY, of Detroit Office, of Whitaker-Glessner Company, Wheeling, West Virginia;

WILLIAM P. LAFFIN, of the Chicago Office, Tuttle

and Bailey Manufacturing Company, New York City;

G. H. PIGGOTT, of Art Stove Company, Detroit, Michigan;

R. H. MENK, of Excelsior Steel Furnace Company, Chicago, Illinois;

W. W. CHALK, of W. J. Burton Company, Detroit, Michigan;

R. S. THOMPSON, of Hall-Neal Furnace Company, Indianapolis, Indiana.

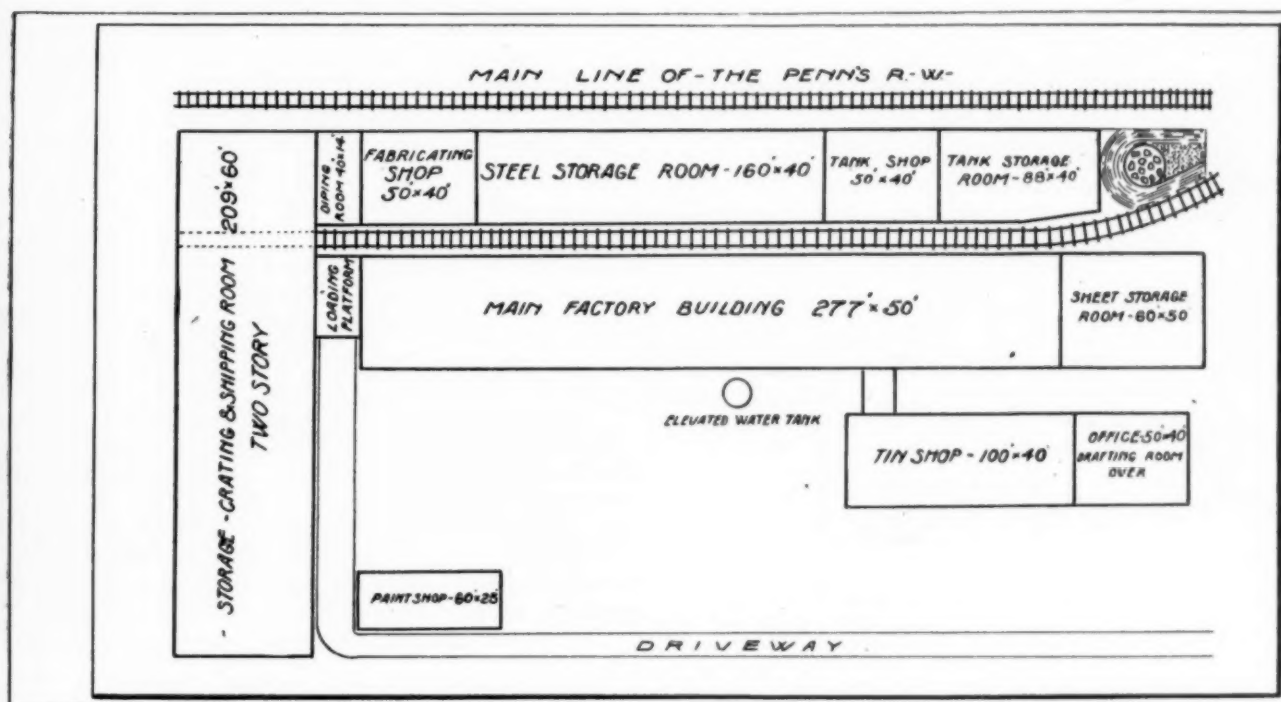
The accompanying photograph shows the members of the Travelers' Auxiliary Association, who acted as waiters at the banquet. It will be perceived from the photograph that although they wore the conventional cook's cap, they were not garbed in the formal uniform of waiters.

DRAWING SHOWS GROUND PLAN OF NEW FACTORY OF THOMAS AND ARMSTRONG COMPANY.

The cumulative effect of continuously high quality, friendly salesmanship, and satisfactory service comes into action when a manufacturing concern finds itself

temptation which beckoned them from the slower but better course of business.

It is a matter of record that the Thomas and Armstrong Company has never permitted the slightest injustice to remain unremedied in any of its dealings with its customers and commercial associates. There is good reason, therefore, for the steadily increasing volume of business which has necessitated the addition to its plant of new offices, tin shop, and other buildings which are to be completed this spring. The ground floor plan is shown in the accompanying drawing. As will be seen from the diagram, the plant at present includes Storage-Crating and Shipping Room, two stories high, 209x60 feet; Dipping Room, 40x14 feet; Fabricating Shop, 50x40 feet; Steel Storage Room, 160x40 feet; Tank Shop, 50x40 feet; Tank Storage Room, 88x40 feet; the Main Factory Building, 277x50 feet; Sheet Storage Room, 60x50 feet; Tin Shop, 100x40 feet; Office, 50x40 feet, with Drafting Room above, and Paint Shop, 60x25 feet. The main line of the Pennsylvania Railroad runs along the side of the plant and there is a switch track between the main factory and the subsidiary shops and storage rooms which affords rapid and efficient shipping facilities.



Ground Plan of Buildings Constituting Present Plant of Thomas and Armstrong Company, London, Ohio.

under the pleasant necessity of increasing the space and facilities of its plant. Such enlargement of productive capacity is really in the nature of reward for consistent honesty and sincerity in the making and distribution of a given line of commodities. There is no substitute for genuineness either in service or product. No more conclusive evidence can be furnished of the well-worn proverb that "honesty is the best policy" than the expansion which follows close upon its observance. Thomas and Armstrong Company, of London, Ohio, manufacturers of stamped and sheet metal products, was established in 1893 and incorporated in 1910. From the beginning, the Company had the wisdom to keep to the straight road of sound material and good workmanship. The officers of the company resolutely set their faces against every

ties in filling orders for the customers of the Thomas and Armstrong Company, London, Ohio.

OPENS NEW TIN SHOP IN KANSAS.

Having had a thoroughly practical training in all branches of sheet metal work, and possessing the necessary experience and craftsmanship, there is every reason to suppose that success will attend the venture of J. E. Hutchison, Garnett, Kansas, in opening a new tin shop in that town. He is desirous of receiving catalogues and price lists of sheet metal products and equipment and communications should be addressed to him as follows: J. E. Hutchison, Tin Shop and General Repairing, Garnett, Kansas.

The lucky never believe in luck.

NOTES AND QUERIES.

Asbestos Roofing.

From Oleson Hardware, Elkhorn, Wisconsin.

Kindly advise who makes asbestos roofing.

Ans.—Edwards Manufacturing Company, Cincinnati, Ohio; Keasby and Mattison Company, Ambler, Pennsylvania; Philip Carey Manufacturing Company, 330 Wayne Avenue, Cincinnati, Ohio; H. W. Johns-Manville Company, Milwaukee, Wisconsin.

Galvanized Stove Bolts.

From O. E. Ebert, 406 South Federal Street, Mason City, Iowa.

Please tell me where I can buy galvanized stove bolts.

Ans.—The Fanner Manufacturing Company, Cleveland, Ohio; The Kirk-Latty Manufacturing Company, Cleveland, Ohio.

Angle Iron.

From O. E. Ebert, 406 South Federal Street, Mason City, Iowa.

Can you tell me where I can secure angle iron 1' x 1" x $\frac{1}{8}$ "?

Ans.—Kling Brothers Engineering Works, 1302 Kingsbury Street, Chicago, Illinois.

Repairing Automobile Radiators.

From L. D. Parke, Whitestown, Indiana.

I would like to know who manufactures tools and supplies for automobile radiator work. Also where I can obtain a good instruction book on radiator repairing.

Ans.—The F. L. Curfman Manufacturing Company, of Maryville, Missouri, can furnish these tools, supplies, and instruction book, and G. F. Chapman, Department R, 535 Hazel Place, Akron, Ohio, can also give instruction.

Second Hand Tinner's Tools.

From L. D. Parke, Whitestown, Indiana.

Please tell me who handles second hand tinner's tools.

Ans.—Charles Molitor Machinery Company, 118 South Clinton Street, Chicago, Illinois.

"Vixen" Files.

From John Starker, 29 Whitehall Street, Albany, New York.

Will you kindly inform me who manufactures the Vixen files?

Ans.—Vixen Tool Works, Newark, New Jersey, make these files.

Fastening Tin Plate on Fire Proof Doors.

From B. T. Wood, 1504 East 26th Street, Minneapolis, Minnesota.

Where can I secure information on the method of nailing and the lock used to fasten tin plate on fire proof doors so as to pass the requirements of the Board of Underwriters?

Ans.—National Board of Fire Underwriters, 207 East Ohio Street, Chicago, Illinois, can furnish you with this information.

Sharpening Machines for Safety Razor Blades.

From H. Blaszkowski, Tlomackie Street, Number 9, Commission House, Warsaw, Poland.

Can you tell me who manufactures small sharpening machines for safety razor blades?

Ans.—Hyfield Manufacturing Company, 21 Walker Street, New York City.

Tinsmith Trade and Pattern Cutting.

From Albert R. Newport, Morris, Illinois.

Kindly advise whether there is a school in Chicago that teaches the tinsmith trade and pattern cutting.

Ans.—Chicago Public Schools have night courses

in sheet metal work and pattern drafting, but they close within a week, and will not open again until next fall. Some of the Public Technical Schools have good courses in sheet metal work but are open only to regular high school students. The Armour Institute of Technology, 3300 Federal Street, Chicago, has a limited course. The general consensus seems to be that the best sheet metal course is that given by the St. Louis Technical Institute, 43-67 Enright Avenue, St. Louis, Missouri, of which O. W. Kothe is principal. An outline of the course taught at the vocational school in Milwaukee, opened by the Wisconsin State Board of Vocational Education, headquarters at Madison, Wisconsin, was published in December 20, 1919, issue of AMERICAN ARTISAN AND HARDWARE RECORD.

Steam Water Heater.

From James A. Maurer, Circleville, Ohio.

Please tell me where I can purchase a steam water heater suitable to heat water for shower bath and three wash bowls.

Ans.—American Radiator Company, 820 South Michigan Avenue; Kewanee Boiler Company, 328 West Washington Street; both of Chicago, Illinois.

"Jones" Register.

From L. W. Hammond, The Hammond Heating Company, Incorporated, 110 East Second Street, Cincinnati, Ohio.

Kindly advise who makes the Jones register.

Ans.—The United States Register Company, Battle Creek, Michigan, makes this register.

Block Tin Pipe.

From J. C. Moebus, 1752 Oregon Avenue, Butte, Montana.

I would like to know where in Chicago block tin pipe, one-half inch inside diameter, can be purchased.

Ans.—National Lead Company, 900 West 18th Street; Raymond Lead Works, 735 South Washtenaw Avenue; both of Chicago, Illinois.

Repair Outfits for Auto Radiators.

From A. V. Holton, Box 151, Sunfield, Michigan.

I would like to know where I can purchase material and tools for radiator repair work.

Ans.—You can purchase these from F. L. Curfman Manufacturing Company, Maryville, Missouri.

Foundry Supplies.

From George F. Meyer, Van Dyne, Wisconsin.

Kindly give me the names of manufacturers of supplies for a small brass foundry including moulding sand.

Ans.—United States Graphite Company, Saginaw, Michigan; Frederic B. Stevens, 3rd and Larned Avenue, Detroit, Michigan; S. Obermayer Company, 2563 West 18th Street, Chicago, Illinois; J. W. Paxson Company, 1021 North Delaware Avenue, Philadelphia, Pennsylvania.

Ball of Copper.

From John J. Beard, 559 West Main Street, Lexington, Kentucky.

Can you tell me who makes a ball of copper not less than twenty ounces?

Ans.—Friedley Voshardt Company, 733 South Halsted Street, Chicago, Illinois.

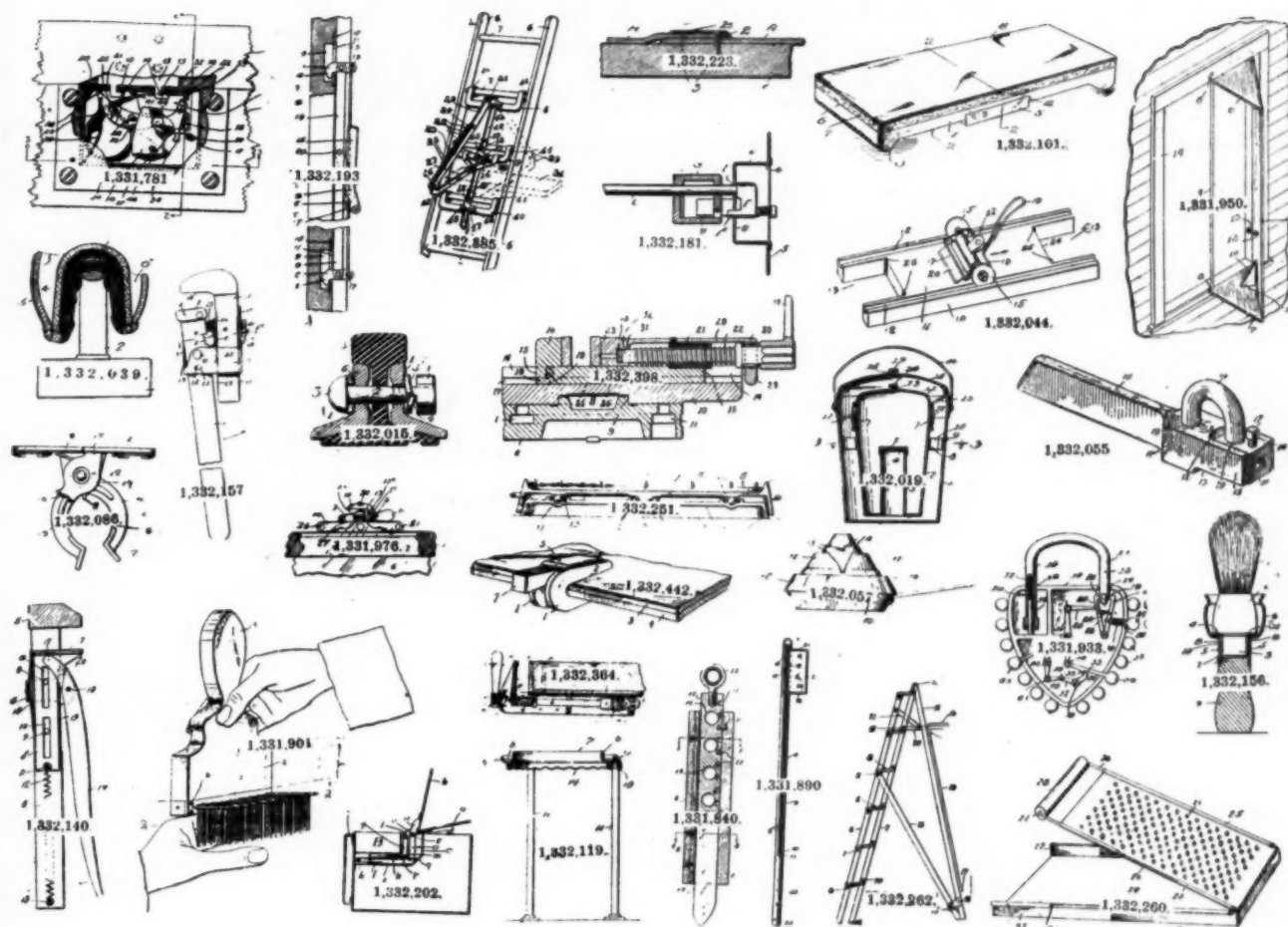
Tin Cap Screws.

From J. Hoffman, Random Lake, Wisconsin.

Where can I buy tin cap screws 4 x $\frac{1}{2}$ or 5 x $\frac{1}{2}$ inch?

Ans.—William Vogel and Brothers, Incorporated, 37 South Ninth Street, Brooklyn, New York, and 180 North Market Street, Chicago, Illinois, and the St. Louis Paper Can and Tube Corporation, St. Louis, Missouri, make these cap screws.

NEW PATENTS.



1,331,781. Lock. Wawrzenc Pendziwiater, Philadelphia, Pennsylvania. Filed September 18, 1919.

1,331,840. Tool-Holder. Fred L. Bates, Alliance, Ohio. Filed August 21, 1919.

1,331,880. Paring-Knife. James E. Smith, Urbana, Illinois. Filed July 19, 1918.

1,331,890. Washboard. Samuel Altman and Joseph Grossman, New York, New York. Filed October 8, 1919.

1,331,901. Nail Buncher and Assorter. John Catinzearo, Chicago, Illinois. Filed August 9, 1919.

1,331,933. Combination-Padlock. Isidore Kodish, Brooklyn, New York. Filed October 31, 1919.

1,331,950. Ventilator. George Leander Biddle, Belmar, New Jersey. Filed December 30, 1919.

1,331,976. Sash-Lock. William Fremont Barger, Norwood, Ohio. Filed October 24, 1917.

1,332,015. Nut and Bolt Lock or Fastener. John H. Wilson, Philadelphia, Pennsylvania. Filed June 20, 1919.

1,332,019. Culinary Utensil. Sarah K. Allison, Macomb, Illinois. Filed February 9, 1918.

1,332,039. Sadiron-Holder. William Henry Hawkes, Nyack, New York. Filed December 6, 1917.

1,332,044. Blade-Sharpener. Harrison D. Kempton, Providence, Rhode Island. Filed May 16, 1919.

1,332,055. Cutter-Holder. Everett Winfred Miner, Hartford, Connecticut. Filed July 29, 1919.

1,332,057. Cooking Utensil. Mathilde R. Murphy, North Plainfield, New Jersey, assignor of one-half to Mark Golein, Brooklyn, New York. Filed July 3, 1919.

1,332,086. Broom-Holder. Irving N. Van Sickles, New Haven, Connecticut. Filed January 14, 1919.

1,332,101. Razor Hone and Strop. Robert E. Brown, Olean, New York. Filed March 14, 1918.

1,332,105. Drill-Bit. Frank L. Clements, Jr., Houston, Texas. Filed March 6, 1919.

1,332,119. Boiler-Stand. Alfred T. Fowles, Dallas, Texas. Filed June 13, 1919.

1,332,140. Wrench. John E. Norgord, Rockdale, Wisconsin. Filed January 21, 1919.

1,332,156. Sanitary Brush. Fayette H. Bachman, Oakland, California. Filed September 19, 1918.

1,332,157. Pipe-Wrench. John W. Bauman and Irvin W. Bauman, Sassamansville, Pennsylvania. Filed April 18, 1917.

1,332,181. Oil-Burner. Elmer G. Lantz, Tillamook, Oregon. Filed May 20, 1919.

1,332,193. Door-Lock. Carl M. Anderson, Havana, North Dakota. Filed October 27, 1917.

1,332,202. Bait and Tackle Box. Walter S. Cole, Marinette, Wisconsin. Filed November 23, 1916.

1,332,223. Roofing-Cleat. James R. McCord, Jr., St. Louis, Missouri. Filed August 12, 1919.

1,332,251. Griddle-Pan. Grace P. Gatchell, Detroit, Michigan. Filed January 30, 1919.

1,332,260. Kitchen Implement. William B. Jones, Vaughan, Mississippi. Filed August 16, 1919.

1,332,262. Ladder. Charles W. Krathwohl and John F. Coveny, Chicago, Illinois. Filed February 20, 1919.

1,332,364. Vise. David M. Smith, Garden Home, Oregon, assignor of one-half to H. B. Dyer, Portland, Oregon. Filed August 28, 1919.

1,332,385. Ladder-Bracket. Charles M. Dunlap, South Pasadena, California. Filed March 3, 1919.

1,332,398. Vise. Frank O. Hoagland, Bridgeport, Connecticut, assignor to The Bilton Machine Tool Company, Bridgeport, Connecticut, a Corporation of Connecticut. Filed March 31, 1919.

1,332,442. Clamp. Thomas H. Kane, Youngstown, Ohio. Filed July 21, 1919.

PRACTICAL USE OF KNOWLEDGE
COUNTS.

It is not what you know but how well you know how to use your knowledge, that counts. The trouble in business is not the lack of men with ability—but the absence of men who use their ability.

WEEKLY REPORT OF TRADE AND THE MARKETS

DEMAND FOR STEEL CONTINUES TO BE IN EXCESS OF PRODUCTION.

According to the monthly statement of the leading interest, issued this week, its unfilled orders at the end of February amounted to 9,502,081 tons—an increase of 216,640 tons over the preceding month. These orders have already surpassed any total recorded before the war. The leading interest is generally believed to be booked ahead relatively further than others, for the reason, possibly, that it has thus far followed a price policy to restrain a runaway market.

In some departments of the steel trade, it is reported, sales forces have been withdrawn because 1920 capacity has already been booked. This applies to some highly finished products in other industries.

All news at the present time in the steel markets indicates a continuance of the strong and active demand for all steel products, from nails to locomotives. The newest factor in the game is the strong increase in the demand for steel supplies for the domestic railroads. The roads are inquiring for locomotives, thus relieving the engine manufacturers from seeking foreign markets for the products, and the roads are looking for enormous quantities of freight cars, which bids fair to aid the steel markets in delivery of products.

Demand from the ordinary consuming trade for all grades of finished and semi-finished steel products is very strong, and the market remains a sellers' affair, with buyers forced to come in and urge contracts for acceptance. The supply is unequal to the demand and thus the mills are enabled to pick and choose their business as they will.

STEEL.

Car builders and locomotive shops are steadily placing orders for bars, plates and shapes for repair work as well as for new construction. Individual orders for steel range from a few hundred to 6,000 tons each. Interest is still centered in railroad buying as their needs are greatest and the prospect is that car and locomotive contracts now pending will require several hundred thousand tons of steel for shipment in the next few weeks.

Farming implement manufacturers are pressing the mills quite vigorously for bar tonnage. Some of them complain they have not had the opportunity to close for as much tonnage as they would have liked. Some large requests for reinforcing bars continue to appear.

COPPER.

A condition of quiet characterizes the copper market. A week ago the tone of the copper market was decidedly stronger and there was everything to indi-

cate an early advance in prices. It would appear now, however, that the difficulty experienced in borrowing money is restricting the purchases of domestic consumers. The influence is unlikely to be more than temporary, however, and it will be surprising if a considerable buying movement fails to develop late this month or early in April.

"All factors considered, 1920 still promises to be a year of heavy copper consumption," declares a Boston authority. "Consumers need a great deal more copper now than the producers of the whole world are carrying in stock. The credit situation alone is responsible for the prevailing tendency to defer purchases, as all other factors are favorable to record breaking sales and consumption. There seems to be ample basis for the estimate that the volume of sales again will be considerably in excess of production within three months from now and that the price of copper will be advancing."

The trade is interested in a recent report coming from the American Chamber of Commerce at London in relation to the construction of a £10,000,000 copper refinery at Newton Abbott, in Devonshire, England, where it is proposed to develop electric energy from lignite and immature coal. Beds of lignite at that point are reported to have 800,000 tons of the fuel available. It is hoped that eventually the new refinery will be able to produce 100,000,000 pounds of copper a year mainly by treating blister copper. Construction of the proposed plant, it is expected, will be completed some time in the next twelve months.

TIN.

The speculative fluctuations of the London market have caused a much lower price level in the domestic market, aided by an easier tendency in sterling exchange. Domestic consumers have proved that they can not, as in past years, be frightened into buying on sensational advances abroad, unless those advances are accompanied with a change in the legitimate situation of supply and demand, justifying such advances. There is no reason to believe that we are not to be subject to continued ups and downs in the foreign prices. It can not be otherwise with the speculative fever abroad and which shows no signs of having run its course.

In the Chicago market, pig tin has declined from 70 cents to 68½ cents per pound and bar tin from 71½ cents to 70 cents per pound.

LEAD.

The leading interest made another advance of its price last Saturday, March 6th.

This is the twentieth consecutive advance since May 6, 1919. There has been during all the intervening period a steady pressure of consuming demand,

buyers having right along underestimated their wants, or found it impossible to contract ahead fully for their probable requirements, so that the condition has been a continual premium above the "official price," for prompt delivery. With each advance by the leading interest, the outside market has moved up, maintaining constantly a higher figure than the "official price."

One of the largest of the independent companies is over 800 tons behind with its orders, and consumers are finding it difficult to get prompt lead at any price. The difficulty in securing sufficient labor in the mining district is restricting production, and weather conditions are unfavorable for a normal output.

The Chicago market naturally reflects the advance in price and American pig lead is quoted at \$10.00 per hundred pounds, an increase of 15 cents per hundred over last week's figures. Bar lead in Chicago is now selling at \$10.25 per hundred pounds, last week's quotation being \$10.10 per hundred pounds. Sheet lead in full coils has gone up to \$12.65 per hundred pounds and in cut coils to \$12.90 per hundred pounds.

SOLDER.

The following prices for solder are now in force in the Chicago market: Warranted, 50-50, per pound, 40.00 cents; Commercial, 45-55, per pound, 37.30 cents; and Plumbers', per pound, 34.60 cents.

ZINC.

Owing to the light domestic demand and the inability of exporters to do any business with England, zinc has declined in price. In the Chicago market, zinc in slabs decreased from 10 cents to 9½ cents per pound.

TIN PLATE.

In the Pittsburgh district, the greater portion of the current production of the tin plate mills in this district is being piled for want of sufficient cars to move it. The limit of storage space has not yet been reached, and several of the independent mills still are running full, while the industry as a whole is averaging more than 80 per cent operations. This condition can not be maintained much longer, however, unless more cars soon are available. Steel supplies are moderate, but as a rule sufficient to keep mills going at the present rate of operations. No let up is noted in the demands for early tonnages, because shipments against old orders are delayed by the shortage of cars. Stock items are carefully scanned by makers of containers in the hope of finding something that will tide them over the present emergency.

SHEETS.

The sheet market is very quiet as regards transactions, and this seems to be due to the sold up condition of mills rather than to there not being demand. Just how much tonnage could be sold is a question, but it is clear that there is demand for more sheets than are available. Report has it, for instance, that an eastern buyer has been sounding the market on 10,000 tons, price being apparently a secondary consideration, without finding any material. There are

occasional prompt orders, placed with mills that have idle capacity, and turn around and buy a lot of sheet bars at a fancy price with which to fill the particular order.

Sheet mill operations are now averaging approximately 80 per cent, the independents doing a trifle above this while the leading interest is hardly doing as well. The independents ran about 80 per cent in the first half of February and 83 per cent in the second half, there being no material change from the second half of February to this date.

The leading interest sold up in full through the second quarter, but on account of shortage in sheet bars there will be a carryover July 1st. The majority of independents are sold to July 1st, and some are decidedly oversold. A few have a little unsold tonnage for second half, but this extra tonnage is being carefully held back.

There does not seem to be any disposition on the part of either the leading interest or the independents to open books for third quarter and it may be the middle of May or later before there is any regular opening.

In the Chicago market, all gages of galvanized sheets have increased 25 cents per hundred pounds.

OLD METALS.

Wholesale quotations in the Chicago district which may be considered nominal are as follows: Old steel axles, \$33.00 to \$35.00; old iron axles, \$35.00 to \$36.00; steel springs, \$25.50 to \$26.50; No. 1 wrought iron, \$26.00 to \$27.00; No. 1 cast, \$37.50 to \$38.50, all net tons. Prices for non-ferrous metals are as follows, per pound: Light copper, 14 cents; light brass, 9 cents; lead, 6 cents; zinc, 5½ cents; cast aluminum, 24½ cents.

PIG IRON.

Conflicting reports are coming from the various pig iron centers, some of them telling of a lull in new buying and a more conservative attitude of consumers, while in the Eastern districts the placing of fair new orders is reported. In one respect reports are uniform, namely, that shortage of spot iron, on account of numerous railroad embargoes and shortage of cars, remains imminent, and that the consumers are unable to receive their contracted shipments.

In the western districts of the pig iron market a comparative lull in buying seems to have followed the strong movement which has been in evidence in recent months. Melters are following a waiting policy and many concerns have not yet covered for their last half requirements, which are of considerable tonnage, and are expected to be placed as soon as consumers see that business conditions are improved. This time probably will approach with the entrance of warmer weather, under which the congested transportation situation will improve.

Blast furnaces in general are not pressing sales for they are well sold up for months ahead and somewhat welcomed the easement in inquiry of the past two weeks. The pressure for shipment is still great and furnaces are unable to meet it owing to the acute car shortage.

Current Hardware and Metal Prices.

AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing Western Hardware and Metal prices corrected weekly.

METALS.		LEAD		AUGERS		BEATERS.	
PIG IRON.		American Pig.....	10 00	Boring Machine.....	60%	Carpet.	Per doz.
		Bar.....	10 25	Irwin's.....	25%	No. 7 Tinned Spring Wire...	\$1 10
		Sheet.		Carpenier's Nat.....	50%	No. 8 Spring Wire coppered...	1 50
		Full coils.....	per 100 lbs. \$12 65	Hollow.		No. 9 Preston.....	1 75
		Cut coils.....	per 100 lbs. 12 90	Bonney's.....	per doz. 30 00	Egg.	Per doz.
		TIN.		Post Hole.		No. 50 Imp. Dover.....	\$ 1 10
		Pig tin.....	68½c	Iwan's Post Hole and Well.....	30%	No. 102 " " tinned...	1 35
		Bart. tin.....	70 c	Vaughan's, 4 to 9-in....	per doz. \$14 00	No. 150 " " hotel...	2 10
		HARDWARE.		Ship.		No. 10 Heavy hotel tinned...	2 10
		ADZES.		Ford's, with or without screw, Net list		No. 13 " " " "	3 30
		Carpenters'.		AWLS.		No. 15 " " " "	3 60
		Plumba.....	Net	Brad.		No. 18 " " " "	4 50
		Coopers'.		No. 3 Handled.....	per doz. \$0 65	Hand.	8 9 10 12
		Barton's.....	Net	No. 1050 Handled....	" 1 40	Per doz. \$11 50 13 00 14 75 18 00	
		White's.....	Net	Shouldered, assorted 1 to 4,		Moulders'.	12-inch.....
		Railroad.		Patent astd'd, 1 to 4..	per gro. 4 00	Per doz. 20 00	
		Plumba.....	Net	Harness.		BELLS.	
		AMMUNITION.		Common.....	" 1 05	3-inch Nickeled Rotary Bell,	
		Peters Cartridges.		Patent.....	" 1 00	Bronzed base.....	per doz. \$5 50
		Semi-Smokeless.....	Less 18%	Peg.		Cow.	
		Smokeless.....	Less 18%	Shouldered.....	" 1 60	Kentucky.....	30%
		Shells, Loaded, Peters.		Patented.....	" 75	Door.	Per doz.
		Loaded with Black Powder, Less 15%		Scratch.		New Departure Automatic...	\$ 7 50
		Loaded with Smokeless Powder,		No. IS, socket hand'ld, per doz. 2 50		Rotary.	
		medium grades.....	Less 15%	No. 344 Goodell-Pratt,		3-in. Old Copper Bell.....	6 00
		Loaded with Smokeless Powder,		List, less.....	35-40%	3-in. Old Copper Bell, fancy...	8 00
		high grade.....	Less 15%	No. 7 Stanley.....	" 2 25	3-in. Nickeled Steel Bell.....	6 00
		Winchester.		AXES.		3½-in. Nickeled Steel Bell.....	6 50
		Smokeless Repeater Grade.....	Less 15%	First Quality, Single Bitted,		Hand.	
		Smokeless Leaver Grade.....	Less 15%	3 to 4 lb.....	per doz. 15 50	Hand Bell polished...List plus 5%	
		Black Powder.....	Less 15%	First Quality, Double Bitted,		White Metal.....	5%
		U. M. C.		per doz. 20 50	Nickel Plated.....	" 5%
		Nitro Club.....	10½5%	Broad.		Swiss.....	" 10%
		Arrow.....	10½5%	Plumba, West, Pat.....	List	Miscellaneous.	
		New Club.....	10½5%	" Can. Pat.....	\$69 00	Church and School, steel alloys...30%	
		Win Waas—per 1000.		Firemen's (handled),		Farm, lbs... 40 50 75 100	
		Winchester 7-8 gauge.....	10½7½%	per doz. 21 00	Each.....	\$3 00 3 75 5 50 7 25
		" 9-10 gauge.....	10½7½%	Single Bitted (without handles).		BEVELS, TEE	
		" 11-28 gauge.....	10½7½%	Prices		Stanley's rosewood handle, new	
		Powder.	Each	Warren Silver Steel.. on application		list.....	Nets
		DuPont's Sporting, kegs.....	\$11 25	Warren Blue Finished.	"	Stanley's iron handle.....	Nets
		" " kegs.....	3 10	Matchless Red Pole.....	\$11 50	BINDING CLOTH.	
		DuPont's Canisters, 1-lb.....	56	Double Bitted (without handles).		Zincd.....	55%
		" Smokeless, drums.....	43 50	Warren's Natl. Blue, 3½ to 4½		Brass.....	40%
		" " kegs.....	22 00	lb.....	Prices on application	Brass, plated.....	60%
		" " kegs.....	5 75	The above prices on axes of 3 to 4 lbs.		BITS.	
		" " canisters.....	1 00	are the base prices.		Auger.	
		L. & R. Orange, Extra Sporting		BAGS, PAPER NAIL.		Jennings Pattern.....	25%
		kegs.....	11 25	Pounds..... 10 16 20 25		Ford Car.....	List plus 5%
		L. & R. Orange, Extra Sporting		Per 1,000.....	\$5 00 6 50 7 50 9 00	Ford's Ship.....	35%
		½-kegs.....	5 90	BALANCES, SPRING.		Irwin.....	20%
		L. & R. Orange, Extra Sporting		Pelouse.....	20%	Russell Jennings.....	35%
		½-kegs.....	3 10	Warren's Natl. Blue, 3½ to 4½		Clark's Expansive.....	33½%
		L. & R. Orange, Extra Sporting		lb.....	Prices on application	Steer's " Small list, \$22 00...	5%
		1 lb. canisters.....	56	The above prices on axes of 3 to 4 lbs.		Large " \$26 00.....	5%
		L. & R. Orange, Extra Sporting		BASKETS.		Irwin Car.....	35%
		½ lb. canisters.....	32	Clothes.		Ford's Ship Auger pattern	
		L. & R. Orange, Extra Sporting		Small Willow.....	per doz. 15 00	Car.....	List plus 5%
		½ lb. canisters.....	22	Medium Willow.....	" 17 00	Center.....	10%
		Hercules "E.C." and "Infallible"		Large Willow.....	" 20 00	Countersink.	
		50 can drums.....	43 50	Galvanized Steel. ½ bu. 1 bu. 1½ bu.		No. 18 Wheeler's.....	per doz. \$2 25
		Hercules "E. C." kegs.....	22 50	Per doz.....	\$11 50 \$17 00 \$22 00	No. 20.....	" 3 00
		Hercules "E. C." ½-kegs.....	11 25	BARS, CROW.		American Snailhead..	" 1 75
		Hercules "Infallible," 25 can		Pinch or Wedge Point, per cwt....	\$8 50	" Rose.....	" 2 00
		drums.....	22 00	BASKETS.		" Flat.....	" 1 40
		Hercules "Infallible," 10 can		Clothes.		Mahew's Flat.....	" 1 60
		drums.....	9 00	Small Willow.....	per doz. 15 00	Snail.....	" 1 90
		Hercules "E. C." ½-kegs.....	5 75	Medium Willow.....	" 17 00	Dowel.	
		Hercules "E.C." and "Infallible"		Large Willow.....	" 20 00	Russell Jennings.....	20%
		canisters.....	1 00	Galvanized Steel. ½ bu. 1 bu. 1½ bu.		Gimlet.	
		Hercules W. A. .30 Cal. Rifle,		Per doz.....	\$11 50 \$17 00 \$22 00	Standard Double Cut.	
		canisters.....	1 25	BALANCES, SPRING.		Doz. \$1 10—\$1 60	
		Hercules Lightning Rifle,		Pelouse.....	20%	Countersink.....	Doz. 1 60
		canisters.....	1 25	BARS, CROW.		Reamer.	
		Hercules Sharpshooter Rifle,		Pinch or Wedge Point, per cwt....	\$8 50	Standard Square.....	Doz. 2 50
		canisters.....	1 25	BASKETS.		American Octagon...	" 2 50
		Hercules Unique Rifle, canisters		Clothes.		Screw Driver.	
		1 50		Small Willow.....	per doz. 15 00	No. 1 Common.....	" 30
		Hercules Bullseye Revolver,		Medium Willow.....	" 17 00	No. 26 Stanley.....	" 75
		canisters.....	1 00	Large Willow.....	" 20 00		
		ANVILS.		Galvanized Steel. ½ bu. 1 bu. 1½ bu.			
		Solid Wrought.....	23 & 23½ per lb.	Per doz.....	\$11 50 \$17 00 \$22 00		
		ASBESTOS.		BALANCES, SPRING.			
		Board and Paper, up to 1/16" 17c per lb.		Pelouse.....	20%		
		Thicker.....	18c per lb.	BARS, CROW.			

CRAYONS—See Chalk.			ELBOWS—Conductor Pipe.			Wood Pails.			HANGERS.		
CUTTERS			Galvanized Steel, Tin and Terne. Round Corrugated.			Frazer's, 15lb. \$1.00; 25 lb. \$1.50 each Hub Lightning, 15 lb. 90c; 25 lb. \$1.21 each.			Barn Door.		
Glass.			Size.		Doz.	Tin Cans.			U. S. Rolled Bearing.....12 1/2%		
Woodward.....	40%		2-inch.....	60%		Frazer's			Matchless.....12 1/2%		
Meat.			3-inch.....	60%		1 1/2 lb. per doz.....\$1 75			Warehouse Tandem, No. 44.....33 1/2%		
Enterprise—Nos. 5 10 12			4-inch.....	60%		3 lb. per doz.....3 25			Conductor P.		
Each \$2 50 \$4 25 \$3 75			5-inch.....	60%					Iwan's Perfection.....45%		
Nos. 22 32			6-inch.....	60%					Eave Trough.		
" 6 50 8 50			EMERY, TURKISH.			GRINDSTONES.			All sizes, 5" or smaller,		
Pipe.			Size.....1-lb. 5-lb. 10-lb.			Family.			All sizes, larger than 5",		
Saunders', No. 1 2 3			Per pound.....18c 14c 13c			Inches.. 7 8 10 12			per gross. \$3 80 Net		
Each.....\$1 85 2 75 6 75			EYES.			Per doz..20 50 21 75 26 25 30 50			per gross. 5 00 "		
Slaw and Kraut.		Per doz.	Bright Wire Screw—See Ooods, B. W.			Loose.			Garage Door.		
4-knife Kraut.....	\$20 00-55 00		Drifting Pick.....60, 10&5%			Per ton..... Price on application			Right Angle.....50&10%		
3-knife Kraut, 8x27 in.	13 00-18 00		Hooks and Eyes—			Mounted.			Sliding Folding.....50%		
1-knife Slaw.....	2 50		Brass, 1 1/2" No. 60...per gross. \$3 50			Ball Bearing..... 1 2 3			Receding.....50%		
2-knife Slaw.....	3 00		Iron " " 50.. " 1 60			Each.....\$4 75 5 00 5 25			Parlor Door.		
Washer.....	11 00		FASTENERS, STORM SASH.			GUN WADS.			Acme.....per set, \$3 75		
DAMPERS, STOVE PIPE.			Shroeder's.....per doz. \$1 50			(See Ammunition).			Ives' Improved....." 3 40		
Ideal			Sensible....." 3 00			GUNS.			Lane's Standard....." 3 50		
3".....	\$1 00		FILES AND RASPS.			Iver Johnson Champion Single			Lane's New Model... " 3 10		
4".....	1 05		Delta.....30%			Barrel Shot Guns.....Net Prices			Le Roy Noiseless.....40&10%		
5".....	1 15		Delta.....List plus 25%			Double Barrel, Hammerless. "			Richards.....25%		
6".....	1 25		Swiss....." net.			HAFTS, AWL.			Advance.....40&10%		
7".....	1 25		Utility....." net.			Brad.			HASPS.		
8".....	2 20		Nicholson's—			Common.....per doz. \$0 35			Hinge, Wrought.....Add 50% to list.		
9".....	3 75		American.....60%			Peg.			With Staples—See Staples.		
10".....	6 00		Arcade.....50-10-7 1/2%			Patent, plain top....." 80			HATCHETS.		
DIES AND STOCKS.			Black Diamond.....50&5%			Patent, leather top... " 90			Crescent.....50%		
Discount.....	New List		Eagle.....50-10-7 1/2%			Sewing.			Cast Claw.....per doz. \$1 50@1 85		
DIGGERS.			Great Western.....50-10-7 1/2%			Common....." 24			Cast Shingling... " 1 50@1 85		
Post Hole.			Kearney & Foot.....50-10-7 1/2%			Patent....." 55			German town.....7 1/2%		
Eureka.....per doz. \$14 50			McClellan.....50-10-7 1/2%						HAY KNIVES.		
Iwan's Split Handle (Eureka)			Nicholson brand.....50&7 1/2%						See Knives.		
4-ft. Handle.....per doz. 15 00			J. Barton Smith.....50&2 1/2%						HAY RACK BRACKETS		
7-ft. 20 00			X-F Swiss Pattern.....Net list.						Wenzelman's No. 1 per doz. sets, \$18 00		
Iwan's Perfection (Atlas) "	16 50		Simonds'.....50%						Wenzelman's No. 2 " 19 20		
Iwan's Hercules pattern "	18 00		Diaston's.....50&10%						HINGES.		
See also Augers—Post Hole.			Heller's.....60&10%						Blind.		
Dividers, Wing.....25%			FORKS.						Clark's Gravity		
DOOR CHECKS—See Checks.			Barley.						No. 1.....per doz. sets, \$2 25		
DOORS, SCREEN.			Steel, new list.....New Prices						No. 3....." " 5 75		
1 1/2-in. 4-panel, painted.....	Net Prices		Hay.						Gale.		
1 1/2-in. 4-panel, painted.....	"		2-tine.....New prices						Clark's....." 2 3		
1 1/2-in. 3-panel, natural pine,	"		3- ".....New prices						Hgs & Lch, doz. \$5 50 7 00 9 75		
fancy.....	"		4- ".....New prices						Hinges only " 4 75 5 50 8 00		
DOOR HANGERS—See Hangers.			Digging.....New prices						Latches only. 1 90 1 90		
DRILLS.			Scoop.....New prices						Screen Door.		
Blacksmiths' Twist. (New List)....	40%		Header.						Cast Iron.....gross \$10 00		
Breast.			3-tine.....New prices						Steel....." 7 00		
Millers Falls No. 12.....Each, \$46 00			4- ".....New prices						Spring.		
" " 112.....26 00			Manure.						Chicago.....Add 12 1/2% to list.		
Hand.			4-tine.....New prices						Columbia Dbl. Acting...40&10&5%		
Goodell's Automatic.			FREEZERS—ICE CREAM.						Gem.....25%		
Nos. 01 03			White Mountain 1-quart.....@						Ideal Detachable...per gro. \$11 00		
Per doz. 12 00 14 40			" " 2 ".....@						Matchless.....40%		
Goodell's Single Gear, per doz. 15 75			" " 4 ".....@						New Idea.....per gro. \$7 20		
Goodell-Pratt No. 4 1/2 per doz.			Arctic.....1 ".....@						Oxford.....20%		
list, less.....30%			" " 2 ".....@						Wrought Iron.		
Goodell-Pratt No. 379 per doz.			" " 4 ".....@						New Lists.....5&5%		
list, less.....30%			" " 6 ".....@						Light Strap Hinges.....20&7 1/2%		
Reciprocating.			Prices on application						Heavy Strap Hinges.....List plus 5%		
Goodell's.....per doz 26 00									Light T Hinges.....List plus 45%		
DRIVERS, SCREW.			GAUGES.						Heavy T Hinges.....15&5%		
Standard.....Nets			Cream Pail.						Extra Heavy T Hinges.....		
Lock Ferrule....."			Fairmount.....per doz. \$3 75						Screw Hook and Strap.		
Champion....."			Marking, Mortise, etc.....Nets						6 to 12 in.....per 100 lbs. \$7 75		
Champion Pattern....."			Wire.						14 to 20 in....." 7 50		
Clark's Interchangeable....."			Disston's.....25%						22 to 36 in....." 7 25		
Edison....."			GIMLETS.						Screw Hook and Eye.		
Reed's Lightning....."			Discount.....35@40%						1 in.....per doz. pair \$2 60		
Goodell's Spiral....."			GLUE.						1 1/2 in....." 3 50		
Yankee Ratchet....."			Bulk.						1 1/2 in....." 5 00		
" Spiral....."			B Amber.....per lb. 35c						HOES.		
EAVES, TROUGH.			A White....." 40c						Garden.....Net		
60-5% off Standard List.			H. S. Amber....." 32c						Grub.		
ELBOWS—Stove Pipe.			Liquid.						Extra.....New prices		
1-piece Corrugated, Uniform.			Army & Navy.....40%						Hazel.....per doz. New prices		
5-inch.....Doz \$1 85			Le Page's—						Ladies' and Boys'.....New prices		
6-inch.....1 90			List "A".....37 1/2%						Mortar.....New prices		
7-inch.....2 20			List "B".....33 1/2%						Planter's Eye.....New prices		
Uniform, Collar Adjustable			List "C".....25%						Weed.....New prices		
5-inch.....Doz \$2 40			GREASE, AXLE.						HOOKS.		
6-inch.....2 45			Wood Boxes.						Awning. No. 60.....per gro 50%		
7-inch.....2 75			Frazer's.....per gro. \$13 00						Bell.		
			Hub Lightning.....7 50						Brown's.....70&5%		
									Jones'.....65&5%		
									ench.		
									See Stops, Bench.		

Box.					
Inch.....	5	7	10	12	
Per doz....	\$2 50	2 75	3 25	3 85	

Bush.
Common Axe Handle, per doz. \$22 00

Chain.					
Inch..	1/4	1/2	3/4	1	
Pr 100 \$7 60-8 10 9 75 11 50 12 60					

Clothes Line.					
Japanned.....	per doz.	48c	@ 1 40		
Galvanized.....	"	75c	@ 2 50		

Coat and Hat.
Common Wire.....per gro. 1 25-1 65

Conductor.
Iwan's Tinned Sickle.....List.

Corn.
Common, riveted, painted
red.....per doz. Nets
Little Giant....." "

Gale.
See Goods, Bright Wire.

Grass.					
Common Nos. 1	3	5	7		
Per doz....	\$4 50	3 50	3 75	3 25	

Hammock.
With plate.....per doz. 1 10
With screw....." 1 00

Lambrequin, or Drapery, per gro. 30c
Picture.....50% @ 50 & 10%

Potato and Manure.....Nets
Screw.....70%

(See Goods, Bright Wire.)
Seat Spring.....per lb. 5 1/2c

HOSE, GARDEN.

Guaranteed 3 ply 1/2 inch	16 c
" 4 ply 1/2 inch	18 1/2c
" 5 ply 1/2 inch	13 1/2c

COTTON COV. RUBBER HOSE.
High Grade Apache 1" guar. press.
400 lb.40c

HUSKERS.

Box.			
Nos.....	B	E	
Per doz.....	New Nets		
No. 59.....	per doz.	New Nets	

IRON, PIG.

See Metals.—First column.

IRONS.

Curling.					
C.....	per doz.	\$4 40			
B.....	"	50			
A.....	"	58			
Princess.....	"	1 25			
Thelma.....	"	1 25			
Pinking.....	"	1 00			

Plane.
Wood Bench.....Add 10% to list

Sad.					
Charcoal.....	per doz.	\$11 00			
Common, polished, per 100 lbs.	7 75				
No. 70 Asbestos.....	\$1 50 net				
No. 100.....	1 75 net				
Common, nickel plated.....	8 25				
Mrs. Pott's.....					
No. 50 J. Enterprise, per set, Nets					
No. 55 J.....	"				
No. 50 T.....	"				
No. 55 T.....	"				
Tailors' Sad.....	per lb				
Tailors' Goose.....	"				

Ideal.					
6 lb. Household.....	\$3 50				
9 lb. Dressmakers.....	4 25				
14 lb. Tailors' Goose.....	5 50				

Tweezers.					
Single Duck Nest.....	per doz.	\$5 25			
Double Duck Nest.....	"	6 25			
Sutton.....	each	2 60			

JACKS.

Locomotive.....	30%
Wagon.	
Richard's No. 1.....per doz.	\$15 50
Miller.....	20 00
Oliver,	
Nos.....	0 00
Each.....	\$0 60 \$0 80

Standard.					
Nos.....	1	2			
Each.....	\$0 60	1 00			
R-W					
Big Lift.....	40%				
Tiger.....	40%				

KETTLES.

Brass.....	15%
Cauldron.....	40 & 5%
Copper.....	per lb. 27
Maslin.....	40 & 10%
Sugar.....	50%

KNIVES.

Best Topping.					
Clyde, 9-in. Scimitar Blade, dz.	\$3 85				
California.....	3 40				
Butcher.....	Per doz.				
Beechwood Handles, 6" blade	\$4 00				
" " 7" " "	4 65				
" " 8" " "	5 65				
Cooper's Hoop.....	15%				

Corn.					
Clipper.....	per doz.	\$1 75			
Disston's.....	"	2 75			
Earle's.....	"	3 00			
Woodford.....	"	2 25			

Drawing.					
Standard.....(New List)	15%				
Adjustable.....	15%				
Barton's Carpenters.....	15%				

Hay.					
Iwan's Solid Socket.....	doz.	\$13 00			
Heath's.....	"	13 00			
Iwan's, Sickle Edge.....	"	15 00			
Iwan's, Imp'd Serrated.....	"	15 50			

Hedge.					
Challenge.....	per doz.	\$6 00			
Disston's.....	"	3 75			

Mining.					
Common, Single.....	"	60			
Common, Double.....	"	90			
Streeter, 4-blade.....	"	1 30			
Streeter, 6-blade.....	"	2 00			

Putty.					
Common.....	per doz.	\$0 75 @ 1 50			
Lander's.....	"	1 75 @ 2 50			

Scraping.					
Beech Handle.....	90 @ 1 10				
Lander's.....	5 50 @ 6 50				

KNOBBS.

Doors.					
Mineral.....	per doz.	\$2 10			
Porcelain.....	"	2 20			
Jet.....	"	2 20			

LADDERS.

Common Long.					
Per ft.....	17c @ 23c				
Extension.					
Per ft.....	22 to 28				

Step.					
Common, per ft.....	23c				
Common, with Shelf, add 10c.					
IXL.....	34c				
Challenge, 6 to 9 ft.....	55c				
10 to 16 ft.....	60c				

LANTERNS.

Bull's Eye Police.					
3-in. Flash Light.....	per doz.	\$13 00			

LEADERS, CATTLE.

Nos.....	51	52			
Per doz.....	\$1 35	1 45			

LEATHER, LACE.

Rawhide 1".....	100 ft.	\$3 00			
" " " " " "	"	4 40			

LEATHERS, PUMP.

Valve and Plunger.....	10%				
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LIFTERS.

Stone Cover.					
Coppered.....	per gro.	\$3 25 @ 5 50			
Alaska.....	"	8 00			
Alaska.....	"	10 00			

Transom.					
Payson's.....	55%				

LINES.

Chalk.					
Twisted in 20-ft. hanks.					
Nos. 4 6 7 8 9					
Gro.....	Prices on Application				
Twisted in 50-ft. balls.					
Nos.....	1 2 3 4				
Per doz.....	Prices on Application				
Braided in 20-ft. hanks.					
Nos.....	0 1 2 3				
Per doz.....	Prices on Application				
Mason's.....	"				
Clothes.					
60 ft. Jute.....	per doz.	\$0 95			
60-ft. Sisal.....	"	40			
50-ft. Cotton.....	"	15			
50-ft. Braided Cotton.....	"	25			

LINING, STOVE.

Bricks.....	per crate, 42c
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LOCKS.

Barn Door.					
No. 60 Stearns.....	per doz.	\$10 00			
No. 80 " " " "	"	17 50			

MACHINES.

Riveting.					
Stearns No. 1.....	per doz.	\$12 00			
Tenoning.					
No. 50 Peace's Spoke.....	each	\$11 50			

MAIL BOXES.

See Boxes.					
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MALLETS.

Carpenters.					
Fibre Head, No. 2, per doz.	\$16 50				
" No. 3 " "	19 50				
" No. 4 " "	28 50				
Round Hickory.....	\$3 00-5 00				
" Lignumvitae.....	6 25-10 50				
Square Hickory.....	3 50-5 50				
" Lignumvitae.....	8 00-12 00				
"Inners".					
Hickory.....	"	2 25			

MATS.

Door.					
National Rigid.....	50 & 10 & 5%				
Acme Steel Flexible.....	50%				

Love.					
No. 2.....	per gro.	Nets			
No. 1.....	"	"			
No. 1 Asbestos Toasters, or					
wire-covered Stove Mats,					
with handle.....	per doz.	1 10			
No. 2 Asbestos Toasters, with					
ring.....	per doz.	60			

MATTOCKS.

Plumbs.....	25%
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MAULS.

Iron, lbs.	10	13	16	18	
Per doz.....	Prices on Application				
Wood Face, lbs.	10	12	14		
Per doz.....	Prices on Application				
Food Choppers.					
Lake Super'r & Oregon Pat.	40 & 5%				

MEASURES.

Galvanized, doz.....	Nets
Japanned, doz.....	Nets

MILLS, COFFEE.

Enterprise.....	16 1/2%
Parker.....	50 & 5%
Arcade.....	40-10%

MITRE BOXES.

See Boxes.					
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MOPS.

Cotton. Star (Cut Ends).					
Pounds 12' 15' 18' 24'-3 oz.					
Per doz. \$4 50 5 65 6 75 9 00					

MOWERS, LAWN.

Gladiator—B. B.					
Inches.....	16	18	20		
Each.....	\$6 50	7 25	8 00		
King Universal—B. B.					
Each.....	\$5 25	5 75	6 00		
Inches.....	14	16	18		
Big Giant.....	\$3 50	3 90	4 25		

NAILS.

Cut Steel.....	Prices on Application
Cut Iron.....	" " "

Wire.					
Small Lots.....	Prices on Application				

ement Coated.					
Small Lots.....	Prices on Application				

Torseshoe.					
Asable.....	35 & 5%				
Capewell.....	15%				
Perfect.....	55 & 5%				
Putnam.....	20 & 5%				
Star.....	30 & 5%				

Picture.					
Brass Heads.....	25%				

Brads.....	50 & 5%
Furniture.....	List plus 15%

NAIL PULLERS.

See Pullers.					
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NAIL SETS.

See Sets.					
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NETTING, POULTRY.

Galvanized before weaving.....	50%
Galvanized after weaving.....	45%

NIPPERS.

End Cutting.					
Stubb's Pattern, Inches. 5 6					
Per dozen.....	\$4 65	6 75			

End and Diagonal Cutting.					
Swedish Side. Inches. 5 6					
Per dozen.....	\$4 50	5 75			

Hoof.					
Heller's.....	40 & 10%				
V. & B.....	55 & 5%				

NOZZLES.

Hose.					
Magic.....	per doz.	\$9 50			
Diamond.....	"	5 75			

NUTS, HOT PRESSED.

Square Tapped.	
\$1.85 off per 100 lbs.	
Hexagon Tapped.	

PARERS	Finners.	PUNCHES.	SAWS.
Apple.	Hollow.....Net list	Conductors.	Band.
Goodell's.....per doz. \$10 80	Solid.....each, 10c	No. 22.....per doz. \$3 00	E. C. Atkins & Co. Prices on applic'n
Turntable....." 11 40		Machine.....per lb. 25	Disston's.....Prices on applic'n
White Mountain....." 8 40			Buck.
Reading, No. 78....." 11 40			Disston's.....Prices on applic'n
	PLUMBS AND LEVELS.		Jackson's.....New nets
Potato.	Common.....Nets	Saddlers.	Butchers.
Goodsell's Saratoga, 10 1/2 in., ds. 6 50	Cook's.....40%	Common.....per doz. 1 50 to 5 00	E. C. Atkins & Co. Prices on applic'n
Goodsell's Saratoga, 5 in., ds. 5 50	Davis' Iron.....25%	Revolving Spring.	Disston's.....Prices on applic'n
	Davis' Inclinometer.....15%	Stearns, No. 10.....per doz. \$ 6 25	Circular.
		" No. 40.....12 00	E. C. Atkins & Co. Prices on applic'n
		" No. 60.....16 00	Disston's.....Prices on applic'n
			Hiles'.....New nets
	POINTERS, SPOKE.	PUTTY.	Compass.
	Stearns' No. 1.....per doz. \$ 8 00	Strictly pure.....per 100 lbs. \$4 25	E. C. Atkins & Co. Prices on applic'n
	" No. 2.....10 00		Disston's.....Prices on applic'n
	POKERS, STOVE.	RAIL.	Coping.
	Wr't Steel, str't or bent per doz. \$0 75	Barn Door.	E. C. Atkins & Co. Prices on applic'n
	Nickel Plated, coil hant's " 1 10	Matchless, 1-in.....5c	Disston's.....Prices on applic'n
		Matchless, 1 1/2-in.....7c	Cross-Cut.
		Storm King.....5c	E. C. Atkins & Co. Prices on applic'n
		Sliding Door.	Disston's.....Prices on applic'n
		Bronzed wrought iron...per ft. 8 1/2c	Dehorning.
			Disston's.....Prices on applic'n
	POLISH.	RAKES.	Flooring.
	Metal.	Per doz.	E. C. Atkins & Co. Prices on applic'n
	Wizard, 6 oz.....per gross \$18 00	Steel, Bow, 12-inch Teeth.....\$8 50	Disston's.....Prices on applic'n
	" 1 pt....." 20 40	Steel, Bow, 14-inch.....9 25	Hack.
	" 1 qt....." 36 00	Malleable Iron, 12-in. " 4 75	Disston's.....Prices on applic'n
	" 1 gal....." 10 80	Malleable Iron, 14-in. " 5 00	Hand and Rip.
	" 1 gal....." 18 60		E. C. Atkins & Co. Prices on applic'n
			Disston's No. 7.....Prices on applic'n
			Disston's Nos. 8, D8, 12, 76, 112,
			D100, and 120.....Prices on applic'n
			Keystone.....New nets
			Keyhole.
			E. C. Atkins & Co. Prices on applic'n
			Disston's.....Prices on applic'n
			Miller Box.
			E. C. Atkins & Co. Prices on applic'n
			Disston's.....Prices on applic'n
			Panel.
			E. C. Atkins & Co. Prices on applic'n
			Disston's No. 7.....Prices on applic'n
			Patternmakers.
			E. C. Atkins & Co. Prices on applic'n
			Disston's.....Prices on applic'n
			Pruning.
			Disston's.....Prices on applic'n
			Stairbuilders.
			E. C. Atkins & Co. Prices on applic'n
			Disston's.....Prices on applic'n
			Wood.
			E. C. Atkins & Co. Prices on applic'n
			Disston's.....Prices on applic'n
			SAW BUCKS—See Bucks.
			SAW SETS—See Sets
			SAW TOOLS—See Tools.
			SAW FRAMES.
			Common, plain.....per doz. \$1 50
			Common painted....." 2 10
			SCALES.
			Counter.
			Pelouze.....40&10%
			SCISSORS.
			Star.....60%
			SCOOPS.
			Grain.
			1 bu. "Hercules".....per doz. 3 70
			1 bu. "Hercules"....." 5 00
			SCRAPERS.
			Box.
			Triangular, No. 6.....per doz. \$6 25
			ROAD.
			Cubic ft.....7 5 3
			With runners, ea. \$7 00 6 50 6 20
			SCREEN DOOR HINGES.
			Cast iron.....gross, \$13 00
			Steel....." 9 50
			SCREWS.
			Bench.
			Iron, ins. 1 1 1/2 1 1/4 1 1/8
			\$9 75 13 75 21 50
			Wood, white maple...per doz. 6 00
			Hand—Wood.....35%
			Hand Rail.....22 1/2%
			Jack.....33 1/2%
			Log or Couch—all sizes, gimlet
			pointed.....45-5%
			Saw—Centennial.
			Nos.....1 2 3 4
			Per doz.....47c 55c 75c 90c
			Wood.
			F. H. Bright.....70-10-10%
			R. H. Blued.....65-10-10%
			F. H. Jap'd.....62 1/2-10%
			F. H. Brass.....42 1/2-10-3%
			R. H. Brass.....40-10-3%
			R. H. Nickel Plated.....57 1/2-10%
			SCYTHES.
			Clipper, Grass.....per doz. \$13 50
			Honest Dutchman.....13 70

SETS.		SQUARES.		TAPES, MEASURING.		WARE.	
Nail.		Steel and Iron.		Asses' Skin.		Glass Pots.	
Square head..... per doz. \$1 25		(Add, for bluing, \$3.00 per doz., net.)		Lufkin's Steel.....		Tinned..... Add 15% to list	
Cup point, knurled.. " 1 15		Mitre.....		Lufkin's Metallic.....		Enameled..... 30%	
Rivet.		Try.....		Lufkin's Pocket.....		WASH BOARDS—See Boards.	
Farmers'..... per doz. \$2 10		Try and Bend.....		THERMOMETERS.		WASHERS.	
Tinners'..... 25%		Try and Miter.....		Tin Case..... per doz. 80c@\$ 1 25		Standard O. G. cast iron... per lb. 3½c	
Saw.		Fox's..... per doz. \$5 00		Wood Back..... " \$2 00@ 12 00		Wrought steel in 5-lb. boxes, per lb.:	
Aiken's Pattern..... per doz. \$6 50		Winterbottom's..... 10%		Glass..... " 12 00		In. 3/16 5/16 1/2 3/4 1 1 1/2 1 3/4	
Diston's Monarch..... " 7 20		SQUEEZERS, LEMON.		TIES.		18c 16c 15c 13c 12c 1 1/4c 1 1/2c 1 1/4c 1 1/2c	
Diston's X-Cut..... " 13 50		Common Wood..... per doz. \$0 70		Single Loop, carload lots..... 75&7%		WEDGES.	
Leach's..... " 80		Porcelain Lined, Wood..... " 1 25		" less than car lots 70&15%		Ax..... per doz. Nets	
Nash's Hand..... " 3 15		Boss, malleable iron..... " 1 20		Cow—See "Chains."		Galling..... per lb. "	
Nash's X-Cut..... " 4 20		Iron frame, porc'n bowl..... " 1 90		TOOLS, SAW.		Saw..... 8½	
Stillman's Lever..... " 1 30		Iron Frame, glass bowl..... " 2 35		Disston's Universal..... 40%		WEANERS.	
Stillman's X-Cut..... " 2 50		Little Giant, tin'd iron..... " 4 00		Traps.		Calf.	
Whiting Pattern, No. 21 " 5 75		Drum, japanned..... " 3 60		Game with Chains..... Per doz.		Fuller's, per doz. \$2 00 to \$2 50	
Eccentric Anvil, Hand, No. 395, N. P. Morrill Pattern, per doz. 11 50		Drum, nickel plated..... " 4 50		Victor No. 1..... \$2 01		Tyler's Safety, per doz. 1 85 to 2 40	
SHARPENERS, SKATE.		STAPLES.		Oneida Jump No. 1..... 2 75		Carroll's, per doz. 3 00 to 3 75	
Diamond..... per doz. \$1 60		Blind.		Newhouse No. 1..... 5 62		Hosier, per doz. 3 50 to 4 60	
Perfect..... 1 20		Barbed..... per lb. 21@22c		Mouse and Rat.		Shaw Perfected..... 3 00 to 3 75	
SHEARS.		Butter Tub..... " 16@19c		Out O'Sight Mouse..... \$ 8 00		WEIGHTS.	
Nickel Plated, Straight, 6"..... \$11 50		Fence—		" " Rat..... 15 00		Hitching..... per lb. Nets	
" " " 7"..... 12 95		Polished..... per 100 lbs. \$5 45		" " Mole..... 100 00		Sash—f.o.b. Chicago	
" " " 8"..... 14 40		Galvanized..... " 6 15		#44 Pocket Gopher..... 20 00		Ton lots, per ton..... \$60 00	
Japanned, Straight 6"..... 10 25		Netting.		Victor Mouse..... 2 60		Smaller lots, per ton..... 63 00	
" " " 7"..... 11 50		Galvanized..... per 100 lbs. 6 50		Hold Fast Mouse..... 2 60		WHEEL BARROWS.	
" " " 8"..... 12 80		Wrought.		Victor Rat..... 11 00		No. 4 Tubular Steel..... @ \$7 25	
Tinners'—See Snips.		Wrought Staples, Hasps and		Hold Fast Rat..... 11 00		Common Tray or Stave Tray @ 2 75	
SHEAVES, SLIDING DOOR.		Staples, Hasps, Hooks and		Official Rat..... 13 50		Angle leg, garden..... @ 4 75	
Common.		Staples, and Hooks and		Wood Choker Mouse, 4 Holes 11 00		WHEELS.	
Inches..... 3 4 5		Extra heavy..... 35%		TROWELS.		Carborundum..... 50%	
Per set..... \$1 40 1 75 2 40		STEELYARD.		Brick.		Emery..... 60%	
Halfed's.		Discount 25%.		Clover Leaf..... 30%		Well. Ins..... 8 10 12	
Per set..... \$1 80 2 10 2 75 25		STONES.		Brade's..... 15&5%		Per doz..... \$5 50 7 25 8 50	
SHELLS—See Ammunition.		Ass.		Diston's..... 30%		12 in. heavy hoisting, per doz. \$25 00	
SHELLERS, CORN.		Hindustan..... per lb. New Nets		Plasterers'.		WIRE.	
Union..... per doz. \$6 75		More Grit..... "		Clover Leaf..... 40%		In coils..... Nets	
SHIELDS.		Washita..... "		Disston's..... 25%		In 1-lb. spools, new list..... Nets	
Expansion Bolt Shields..... 60%		Emery.		W. & McP..... Net		Broom—Tinned..... Nets	
SHOES.		No. 126..... per doz. New Nets		TRUCKS.		Cable—Same price as Barbed Wire.	
Conductor..... 60%		Oil—Mounted.		Bag..... each, \$3 75		Copper.	
SHOT—See Ammunition.		Arkansas Hard No. 7 per doz. New Nets		Warehouse or store.		In coils..... Nets	
SHOVELS AND SPADES.		Arkansas Soft..... "		No 1, each..... \$24 50		1-lb. spools, new list..... Nets	
Cool.		Washita No. 717..... "		" 2, "..... 22 50		Fence—Smooth. An'eal'd Galv'd	
No. 2, Woodford..... per doz. \$5 50		Oil—Unmounted.		TUBS, WASH.		Nos. 6 to 9, less than	
No. 182..... " 6 00		Arkansas Hard..... per lb. New Nets		Standard, Wood.		car, per 100 lbs. \$4 25 \$4 95	
Ames', new list..... Discount, 12½%		Arkansas Soft..... "		Nos..... 3 2 1 large		Hair—New List..... 40&10%	
Neverbreak, hollow bck. blk..... Nets		Lily White..... "		Per doz. \$9 50 11 25 12 75 15 50		Market.	
National..... " "		Queer Creek..... "		Galeanised.		Bright, full bdles.....	
Buckeye..... " "		Washita..... "		No..... 1 2 3		Bright, broken bdles.....	
Mohawk..... " "		Scythe		Per doz..... 15 20 14 50 20 00		Coppered, full bdles.....	
Bar Drain & Ditching		Black Diamond..... per gro. New Nets		TWINE.		Coppered, broken bdles.....	
Iwan's Perfection..... \$30 00		Crescent..... " "		3-ply Cotton Wrapping.....		Tinned, full bdles.....	
Railroad, etc.		Green Mountain..... " "		4 " " " " " "		Tinned, broken bdles.....	
Black Diamond..... per doz. Net		LaMoille..... " "		4 " " " " " "		Picture—In coils..... 80% @ 80&10%	
Crescent..... " "		Extra Quinnebog..... " "		4 " " " " " "		In 5-lb. spools..... per lb. 26c	
Keystone..... " "		Red End..... " "		India Hemp, 4-lb. balls, No. 18..		WRENCHES.	
Star..... " "		STOPS, BENCH.		2-ply Jute, 1-lb. balls.....		Coes Steel Handle, 6 inch..... 30%	
Hollow Back..... " "		No. 10 Morrill pattern, per doz. \$10 00		Seins.		" " " 8 " " " 30%	
Ames', new list..... Discount, 12½%		No. 11 Stearns " " 8 75		Soft..... per lb..... Market		" " " 10 " " " 30%	
Saws.		No. 15 Smith " " 6 50		Med..... " " " "		Coes Knife-Handle, 6 " " " 30%	
Galvanized, with wood han-		STOPPERS, FLUE.		Hard..... " " " "		" " " 8 " " " 30%	
dle, No. 36..... \$1 45		Common..... per doz. \$1 10		Staging, 4-lb. ball, size 21.....		" " " 10 " " " 30%	
No. 55..... 1 55		Gem, flat, No. 3..... " 1 00		" " " 24.....		Coes All Patterns..... 30%	
Alaska Steel.		Gem, No. 1..... " 1 10		" " " 27.....		Bemis & Call's:	
D-Handle..... per doz. \$3 50		STOVE PIPE—See pipe.		Bagging, 4-lb. ball.....		Adjustable S, 15%; Adjustable S	
Long Handle..... " 3 00		STOVE BOARDS—See Boards.		3-ply, "B" in hanks.....		Pipe, 15%; Briggs' Pattern, 10%	
SINKS.		STOVE POLISH—See Polish.		4 " " " " " "		Combination Bright..... 15%	
Cast Iron.		STRAPS.		4 " " " " " "		Steel Handle Nut..... 20%	
Painted, 16x24..... Net		Shale..... per doz. 85c & 1 20		3 " " " " " "		Combination Black..... 15&5%	
Enameled, White, 16x24.....		STRETCHERS.		3 " " " " " "		Merrick Pattern..... 10%	
Wrought Steel.		Corpet.		Fodder or Lath.		Knife Handle Pattern.	
Painted, 16x24.....		Bullard's..... per doz. \$3 90		130 strand.....		No. 62, Screw Wrench. List, plus 5%	
SLEDGES—See Hammers.		Excelsior..... " 5 25		VISES.		No. 60, Steel Handle.....	
SNAPS, HARNESS.		Malleable Iron..... " 70		No. 21, Hand..... \$5 00		WRINGERS.	
Covered Spring..... Add 30%		Perfection..... " 6 30		Inches 2 2½ 3 3½ 4½		No. 790, Guarantee..... per doz. \$67 00	
Judd's Pattern..... Add 33¼% to list		King..... " 4 50		Each \$2.40 \$2.60 \$3.00 \$3.75 \$7.75		No. 770, Bicycle..... " 62 50	
SNATHS.		Wire.		No. 1, Genuine Wentworth,		No. 110, Domestic..... " 53 50	
Double Ring, Bush..... per doz. \$9 75		O. S. Elwood, No. 1... per doz. Nets		Noiseless Saw..... per doz. \$3 50		No. 110, Brighton..... " 51 00	
Patent Loop, Bush..... " 10 00		O. S. Elwood, No. 2.. " "		No. 2, Genuine Wentworth,		No. 740, Bicycle..... " 62 50	
Patent Loop, Grass..... " 8 75		SWIVELS.		Noiseless Saw..... per doz. 20 00		No. 22, Domestic..... " 55 50	
SNIPS, TINNERS'.		Malleable Iron..... per lb. \$0 10		No. 3, Genuine Wentworth,		No. 22, Pioneer..... " 51 00	
Clover Leaf..... 40&10%		Wrought Steel..... per gro. 4 50		Noiseless Saw..... per doz. 16 00		No. 770B, Bicycle..... " 101 00	
National..... 40&10%		TACKS.		No. 500, All Steel Folding Saw		No. 781B Guarantee... " 111 00	
Star..... 50%		Bill Posters' 6-oz., 25 lb. boxes,		per doz. 13 50			
SOLDER—See Metals.		per lb. 15c					
SPRINGS, DOOR.		Upholsters' 6-oz., 25-lb. boxes,					
Perfect.		per lb. 15½c					
Nos. 2 3 4 5 6 7							
Per doz. .55c 60c 65c 75c 90c 1 00							
Reliance.							
Light Medium Heavy							
Per doz. \$1 55 2 10 3 20							
Torrey's..... per doz. 1 65							
SPRINKLERS, LAWN.							
Stearns' No. 1..... per doz. \$9 75							

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